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NOVEMBER, 1949

Textile Industries

formerly COTTON Textile Industries

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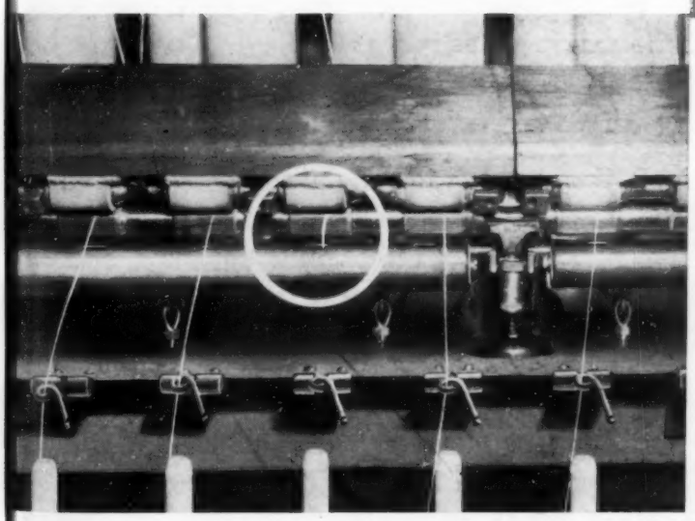

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TEXTILE INDUSTRIES is published monthly at 116 E. Crawford St., Dalton, Ga., by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A.
Executive and Editorial Offices: 806 Peachtree St., Atlanta 5, Ga.
Subscription Rates, United States and Possessions, $2.00 for one year; Canada, South America, Central America, $2.00 per year; Foreign Countries, $5.00 per year.
Entered as second-class matter at the post office, Dalton, Georgia, under the Act of March 3, 1879.
Volume 113 Number 11

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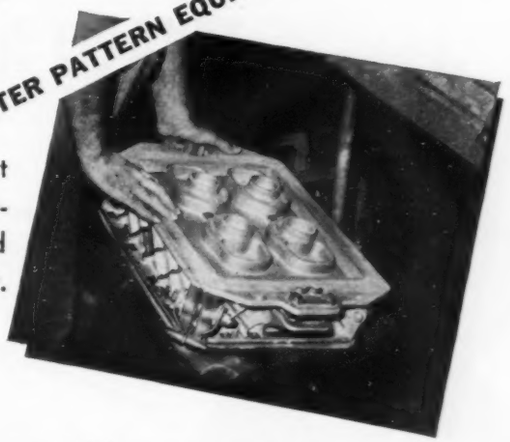
① It takes textile engineers with a lot of "know-how" to produce harness cams. Our harness cams are designed by the same engineers who developed the world famous Draper looms.

② **MASTER PATTERN EQUIPMENT**



Accurate cam contours are achieved by direct transfer from the designer's drawings. Then precision-made aluminum match plates are fabricated by master patternmakers for use in the foundry.

③ Continuous laboratory tests insure the constant quality of Draper iron.

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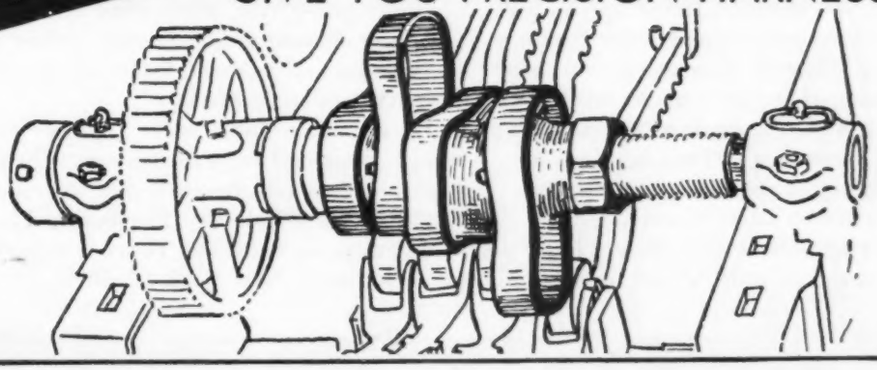

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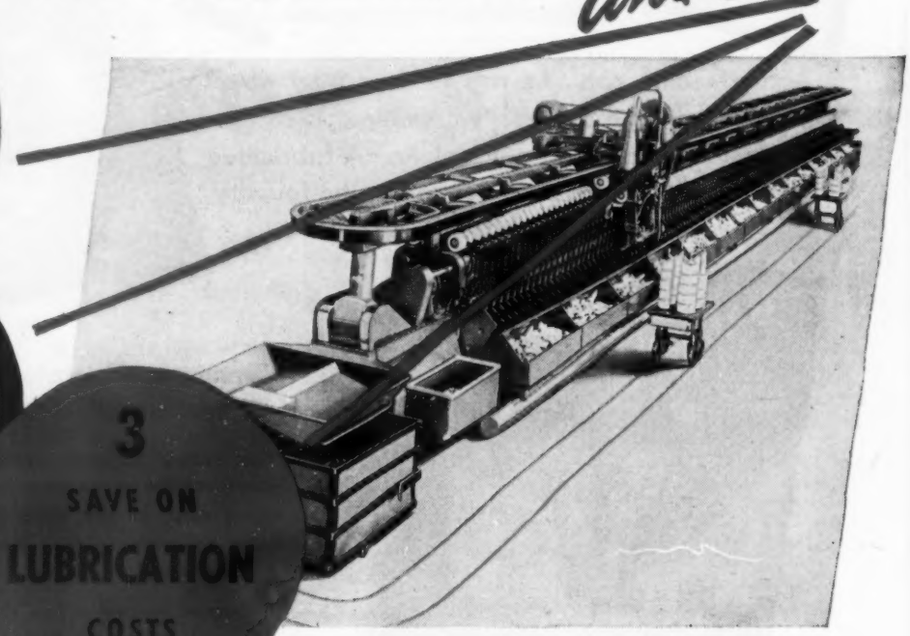

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FOR THE TEXTILE INDUSTRY

Volume 113, Number 11

Textile Industries

November, 1949

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Payment for contributed articles is made upon acceptance, before publication.

"Textile Industries" has the largest circulation among the mills of the United States of any textile publication

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Published Monthly at 115 E. Gordon
Dalton, Ga.

By W. R. C. SMITH PUB. CO.

Editorial and Executive Offices
806 Peachtree St., N.E., Atlanta 5, Ga.

ANNUAL SUBSCRIPTION
U. S., CANADA, PAN-AMERICA—$2.00
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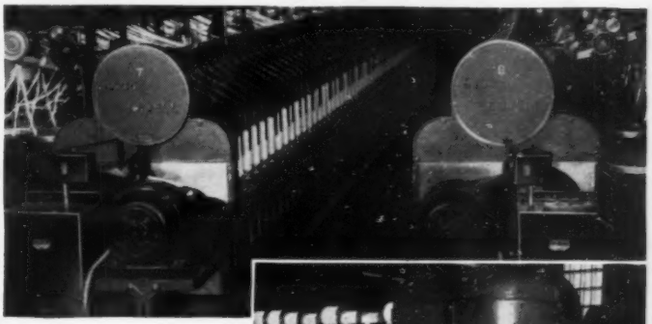
MOTOR CONTROL FOR THE TEXTILE INDUSTRY

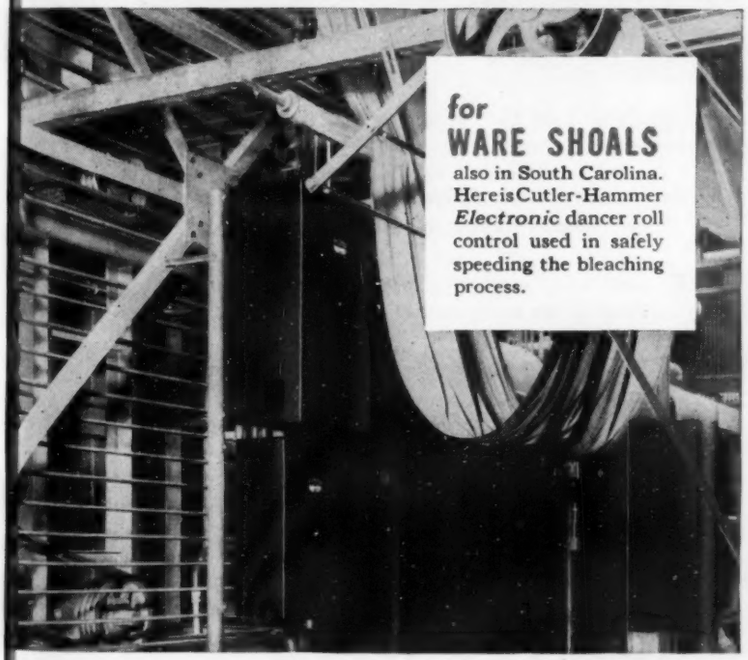
for MATTHEWS

at Greenville, South Carolina, Cutler-Hammer *standard* control is *standard* equipment on these spinning frames.



for WAUMBEC

at Manchester, N. H. Cutler-Hammer Push-button Manual Starters on uptwisters and Primary Resistor Type Magnetic Starters on roving frames. Cutler-Hammer control also used on looms and spinning frames in this great mill.



for WARE SHOALS

also in South Carolina. Here is Cutler-Hammer *Electronic* dancer roll control used in safely speeding the bleaching process.

CUTLER-HAMMER LOOM SWITCH

for fewer shutdowns, greater production, easier maintenance

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Service proven, positive make, quick break operating mechanism built on *steel* framework.

"Out in the open" contacts for quicker inspection and easy renewal *on the job.* Most dependable overload protection—famous Cutler-Hammer eutectic element type—prevents unnecessary shutdowns without sacrifice of *positive* motor protection.

Vibration resistant. Mechanism "floats" in truly effective *live rubber* mounting bushings.

Look Behind the Label If You Want the Most From Your Plant

Every experienced textile man knows that his real investment lies *not* in the row upon row of machines in his plant . . . but in the uninterrupted operation of this equipment at peak efficiency. And if he knows *that,* he is also keenly aware of the part motor control plays in "keeping things humming." For motor control is the connecting link that permits men, motors and machines to function together as one highly efficient unit.

The selection of this important link *cannot* be left to chance, nor to mere enumeration of dimensions and ratings. And so, textile men with keen vision look beyond the control itself, to truly significant factors such as Cutler-Hammer's *record specialization* in the field of motor control. Not only has this 58 year specialization contributed much to the dependability of the electric motor drives of today, but the "know-how" gained in the solution of *tough* problems for *all* industry contributes a great deal to the efficiency and dependability of Cutler-Hammer control for the Textile Industry. That is why a larger and larger proportion of textile mill men are looking *behind* the label, focusing upon the all-important question of who built the control, insisting upon Cutler-Hammer, and refusing all substitutes. CUTLER-HAMMER, Inc., 1456 St. Paul Ave., Milwaukee 1, Wisconsin.

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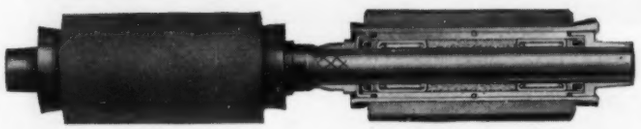

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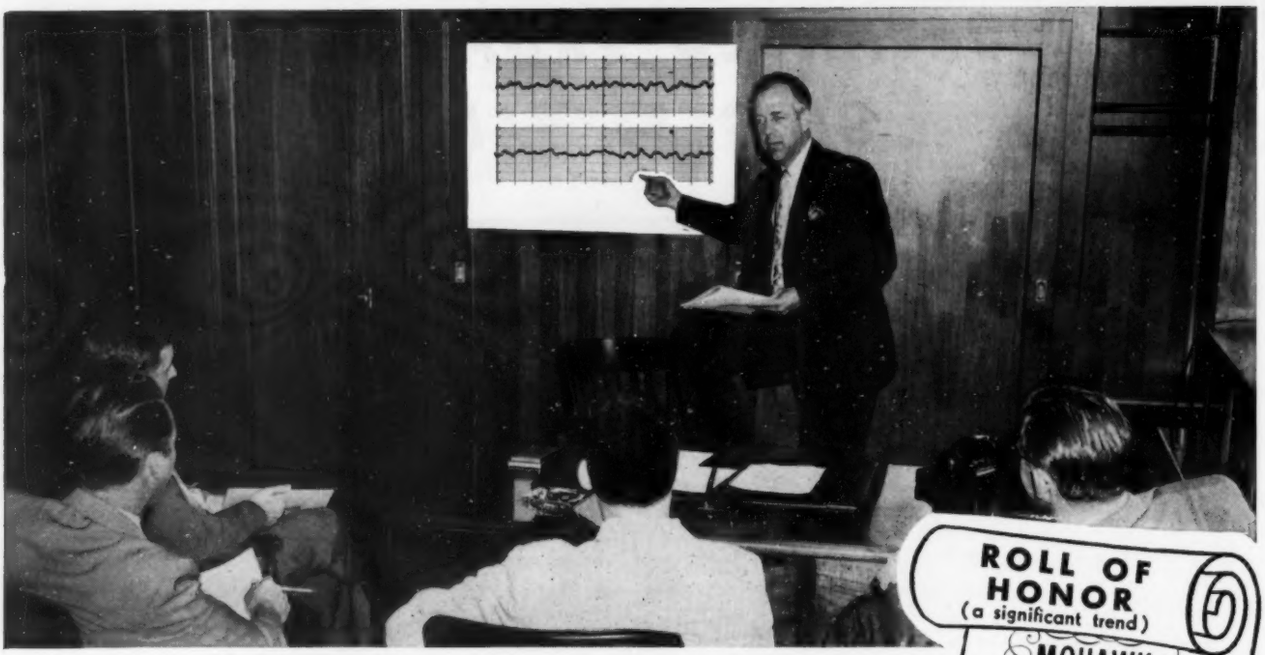

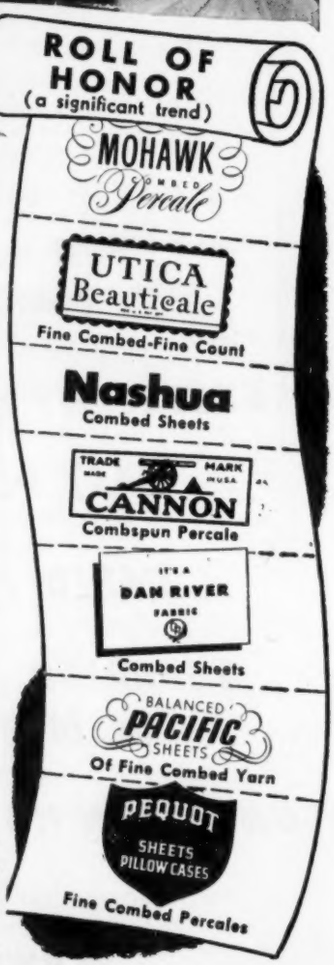

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That's the American economic system at work.

This system has some faults—such as ups and downs in prices and jobs. And everybody in this country, except a small group of eccentrics and communists, is working to correct them.

But just remember this: If you want to earn still more money—if you want to work still shorter hours—the only way to do it is to make the American system work even *better*. And that means that every man, every business, every machine has got to produce more and more for every hour they work—just as they've *been* doing since 1910. And if they do, the gains can be shared by everyone.

All of us in this country *want* the system to work better. And if all of us work together—you can be dead sure it *will*.

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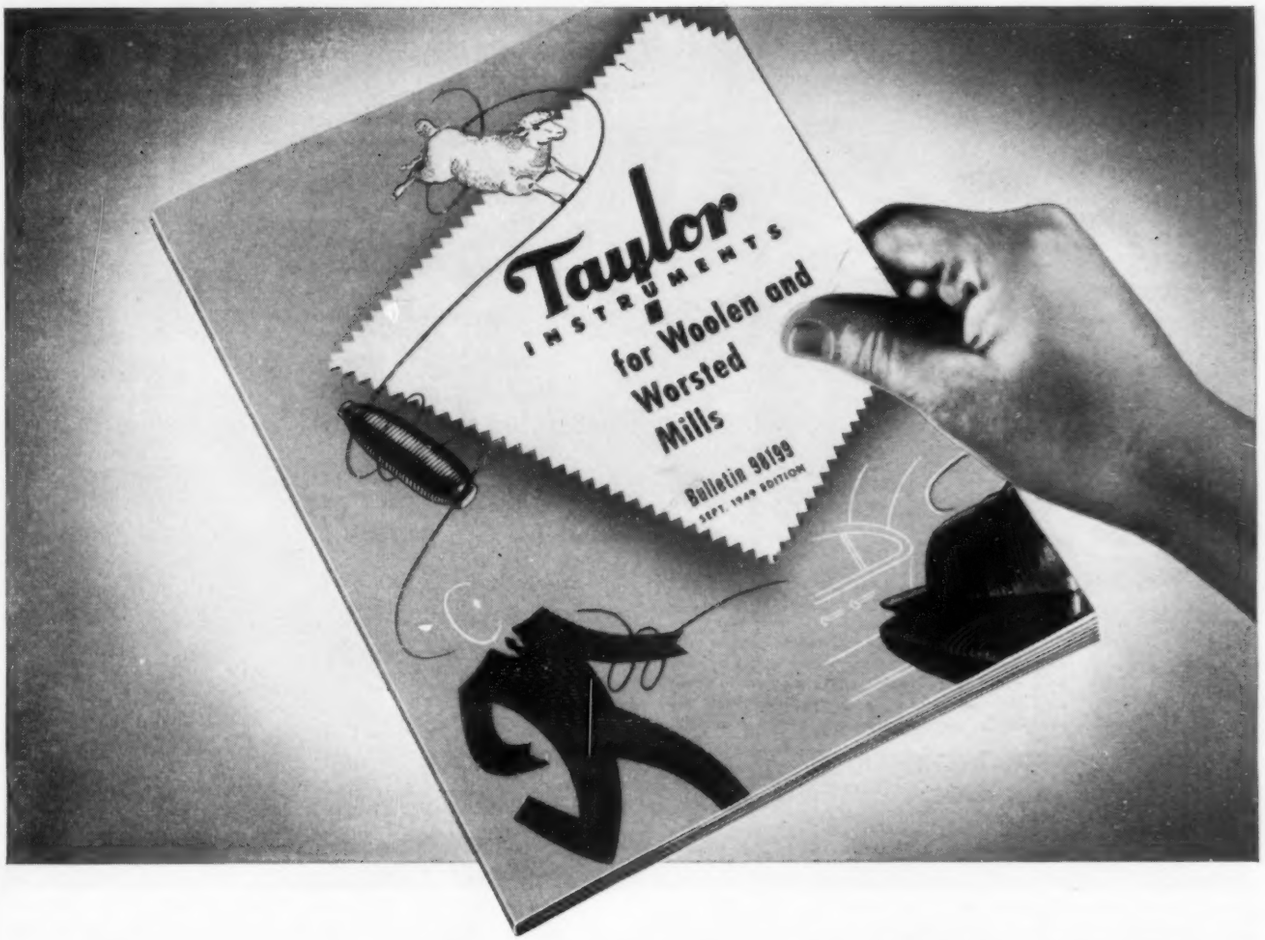


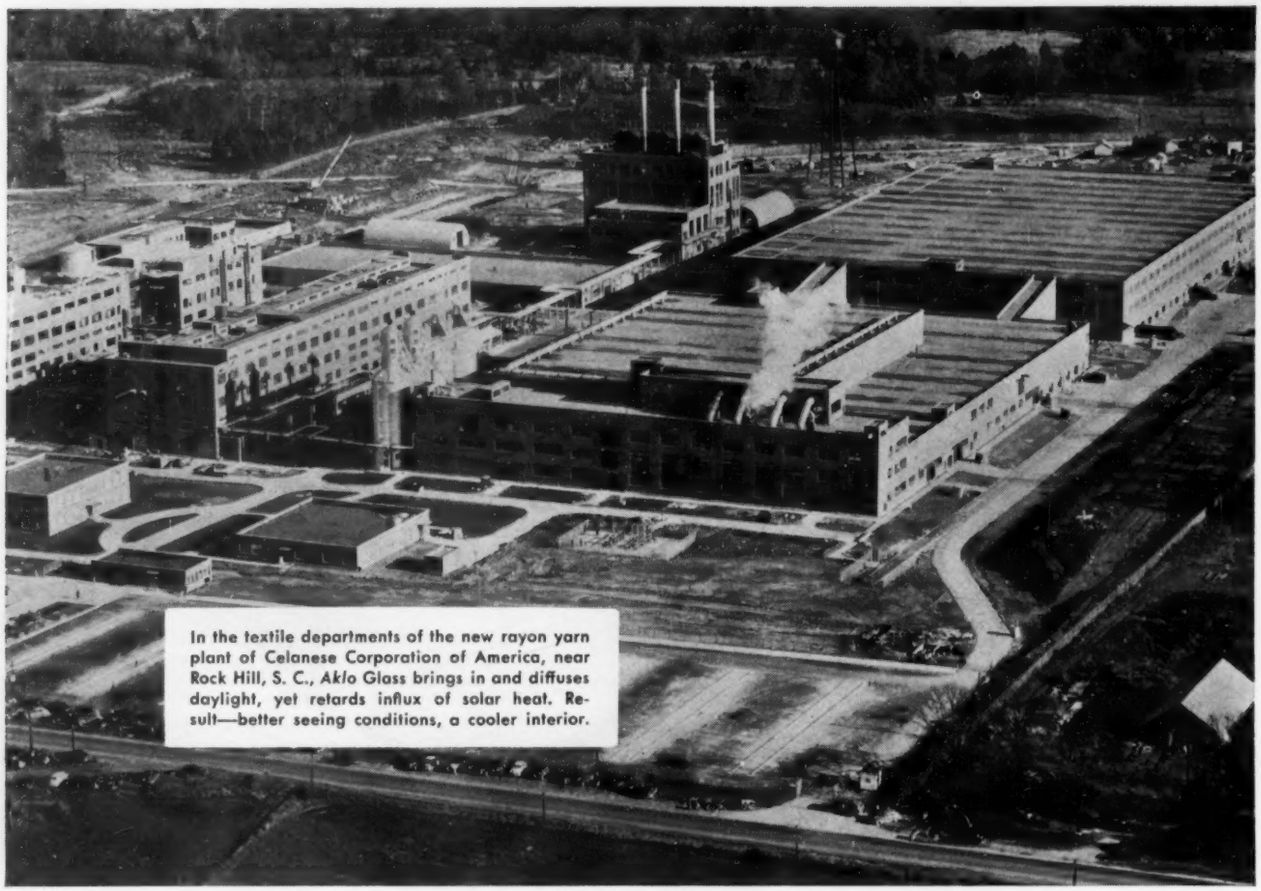
NEW TAYLOR BULLETIN SHOWS 10 WAYS TO CUT COSTS IN WOOLEN AND WORSTED MILLS

TO compete in today's market, you must cut costs in every operation. You'll find 10 proven automatic control systems designed just for that purpose in Taylor's new Woolen and Worsted Bulletin. Each system is clearly shown with an operational drawing or an actual installation photograph or both. Here are the processing phases covered:

1. **Scouring Trains**
2. **Carbonizers or Dryers**
3. **Size Cooking**
4. **Size Storage Kettles**
5. **Size Boxes**
6. **Slasher Dryers**
7. **Package and Raw Stock dyeing**
8. **Piece, Skein and Top dyeing**
9. **Continuous Crabbers**
10. **Semi-decators and Full Decators**

All this adds up to one fact. If you're interested in cutting costs of woolen or worsted processing, *Taylor Bulletin 98199* is a book you should study! Write Taylor Instrument Companies, Rochester, N.Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY



In the textile departments of the new rayon yarn plant of Celanese Corporation of America, near Rock Hill, S. C., *Aklo* Glass brings in and diffuses daylight, yet retards influx of solar heat. Result—better seeing conditions, a cooler interior.

How FILTERED DAYLIGHT increases plant efficiency

There's dollars-and-cents economy in providing soft, well-distributed daylight that is easy on the eyes. Better workmanship. Faster production.

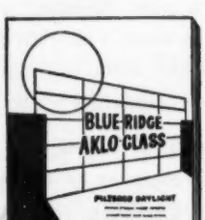
REDUCES GLARE—Glare produces eye fatigue. It breeds danger—especially when reflected from shiny moving parts. Provide better seeing conditions in your plant with Blue Ridge Frosted *Aklo** Glass. This eye-resting, blue-green glass "softens" daylight, diffuses harsh, direct solar rays and bright reflections. No need to paint glass or hang shades when you have *Aklo* Glass.

RETARDS SUN HEAT—*Aklo* absorbs most of the infrared radiation of the sun—reradiates much of it back outdoors. Interiors stay cooler, air-conditioning equipment operates more efficiently, workers are more comfortable.

Aklo Glass is manufactured by the Blue Ridge Glass Corporation of Kingsport, Tennessee, and sold through Libbey·Owens·Ford Glass distributors. To see for yourself how Frosted *Aklo* Glass reduces glare and sun heat, ask your distributor for a Radiometer demonstration.

Free Book on Reduction of Sun Glare and Heat.

Write to Blue Ridge Sales Division, Libbey·Owens·Ford Glass Company, 92119 Nicholas Building, Toledo 3, Ohio. •®



BLUE RIDGE AKLO GLASS

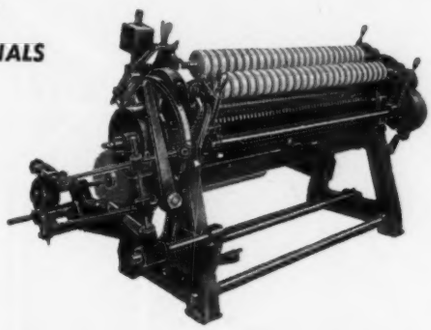
Heat Absorbing • Glare Reducing • Figured and Wire Glass

Camachines

. . . for men with ideas

With more than twenty different models for the textile industries to choose from, Camachines offer a practical answer to every slitting and roll-winding problem. Illustrated below are four typical Camachines for men with ideas about increased production, improved quality and lower costs . . .

TACKY MATERIALS

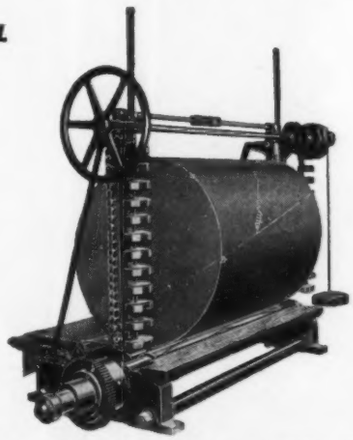


CAMACHINE 26-3A is especially designed for handling tacky or unevenly coated materials, such as adhesive tapes. Machine widths 26" to 56". Accommodates a 32" diameter mill roll. Rewinds rolls as narrow as ½", or up to 17¼" in diameter. Operates at speeds up to 400 fpm.

BIAS BINDING

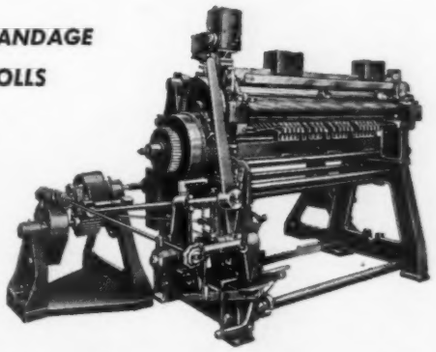
CAMACHINE 40-3L is the ideal machine for converting straight and bias binding fabrics (also specialty fabric) into strip in rolls. Machine widths 26" to 56". Accommodates material from roll, piece or fold. Rewinds rolls as narrow as ½", or up to 22" diameter. Speed up to 150 fpm from fold; higher from roll.

LOW MODEL WINDER



CAMACHINE 44-W low model winder operates in conjunction with processing machines as in bleacheries, fabric printing plants and bag factories. Available in machine widths from 32" to 82". Produces firm, uniformly rewound rolls up to 36" in diameter at speeds up to 1000 fpm.

BANDAGE ROLLS



CAMACHINE 40-4B, a semi-automatic machine for fast production of gauze bandage rolls. Machine widths 42" to 50". Accommodates 24" diameter mill roll. Rewinds rolls as narrow as ½", or up to 12" diameter. Machines come equipped with automatic stop for producing rolls of predetermined length.

Cameron Machine Company, 61 Poplar St., Brooklyn 2, N. Y.

WRITE FOR LITERATURE

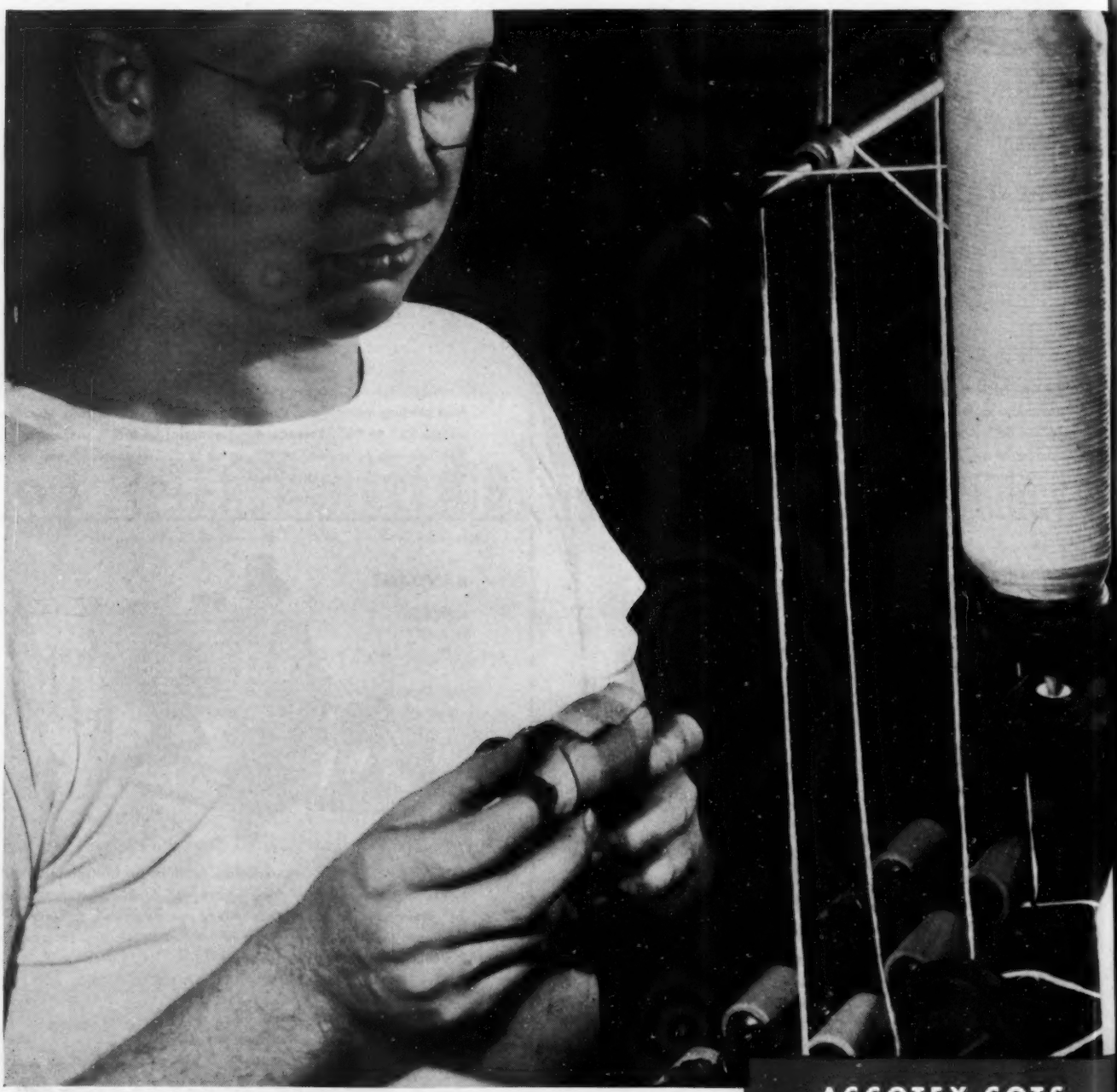
AA—188

Camachines

FOR FAST, TOP QUALITY ROLL PRODUCTION

. . . the world over

Avoid troublesome seams



ACCOTEX COTS
CORK COTS

by using Accotex Aprons

Special Accotex construction also prevents other common causes of apron failure

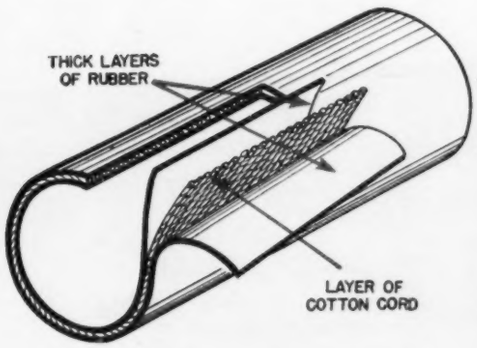
Armstrong's Accotex Aprons have no seams to break open or cause irregular slip roll action. Seamless layers of tough Accotex® rubber, reinforced by a sturdy cord interliner, provide smooth wearing surfaces that cannot break open at the seams. Neither can they stretch or curl at the edges.

Because of this special construction—developed and patented by Armstrong—many Accotex Aprons still spin top-quality yarn after *more than six years of continuous service* on spinning and roving frames.

In addition, the rubber used in Accotex Aprons helps produce clean running work. A special non-oxidizing synthetic, it will not scuff or become hard and brittle with age.

Accotex rubber also gives the aprons superior flex life. Year after year, they hug the nose bar without buckling, are unaffected by oil, temperature changes, or humidity.

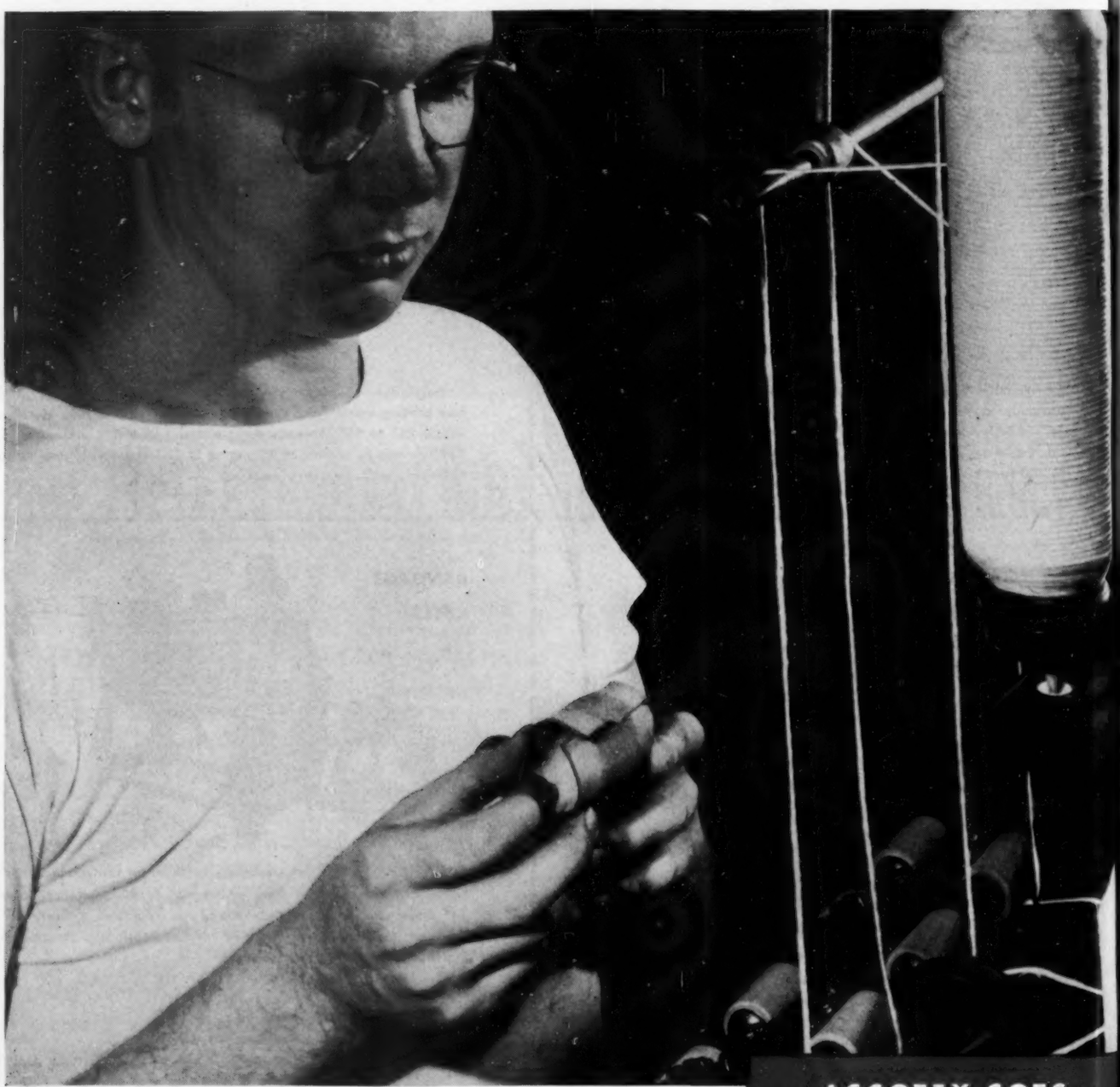
See for yourself how Armstrong's Accotex Aprons completely eliminate the common causes of apron failure. Your Armstrong representative will be glad to arrange a test installation. Call him today. Or write Armstrong Cork Company, Textile Products Department, 3611 Arch Street, Lancaster, Pa. Available for export.



Armstrong's Accotex Aprons are available for single or double apron long-draft equipment, for roving as well as for spinning frames. They are ground to the exact thickness you require . . . and are uniform in density and over-all dimension.

ARMSTRONG'S ACCOTEX APRONS

Avoid troublesome seams



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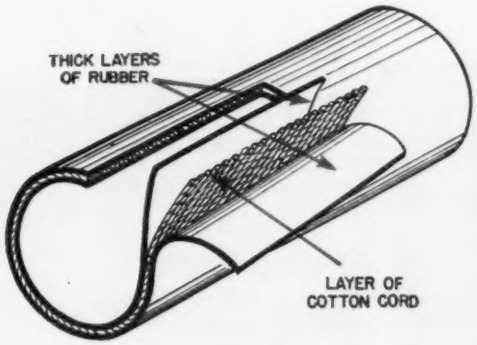

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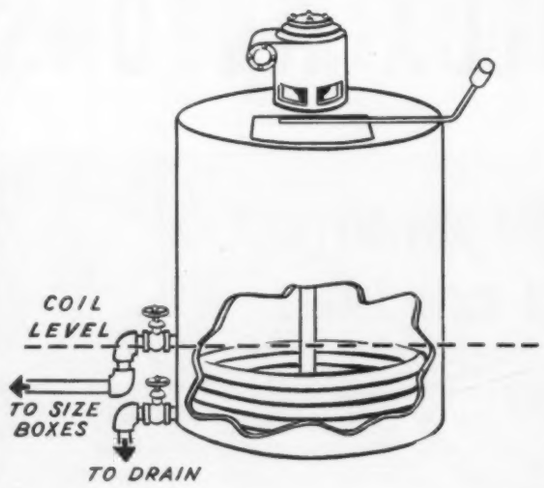
ARMSTRONG'S ACCOTEX APRONS

SLASHING HINTS

No. 10 of a series

STORAGE KETTLES



BE careful never to allow the size level in the storage kettle to get below the steam coil, except while draining. The size film on the coil exposed will dry out and bake on the coil, causing poor heat transfer as long as it stays there, and hard size lumps when it leaves. To be on the safe side, cut off the steam while draining.

This trouble can be prevented if the storage kettle has two outlets: one above the coil for pumping to size boxes, and one in the bottom for draining and cleaning.

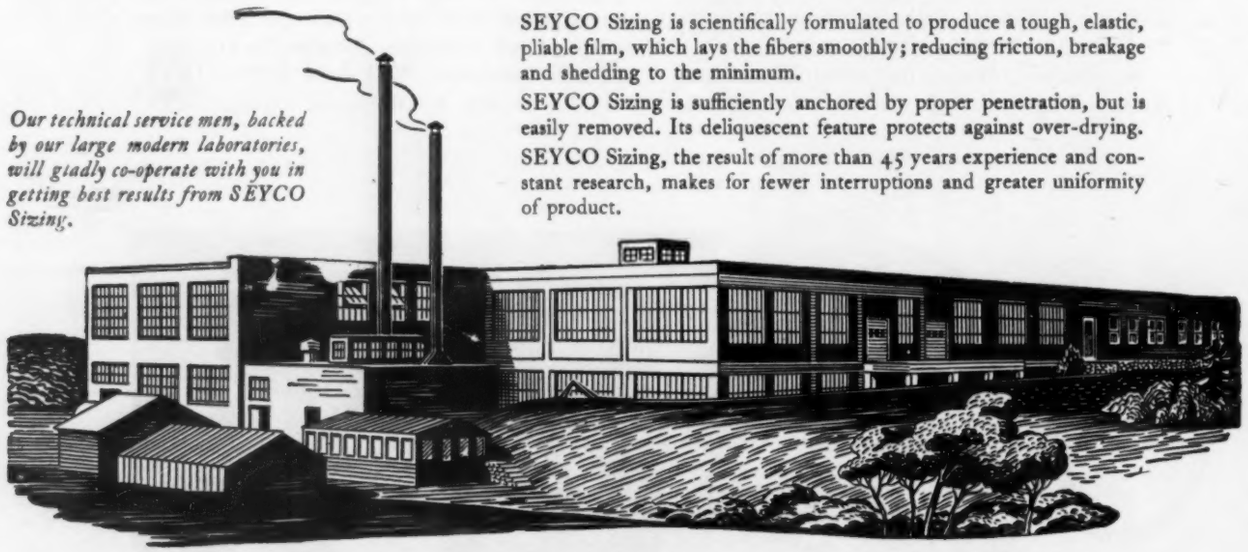
HEADQUARTERS FOR SIZE

Our technical service men, backed by our large modern laboratories, will gladly co-operate with you in getting best results from SEYCO Sizing.

SEYCO Sizing is scientifically formulated to produce a tough, elastic, pliable film, which lays the fibers smoothly; reducing friction, breakage and shedding to the minimum.

SEYCO Sizing is sufficiently anchored by proper penetration, but is easily removed. Its deliquescent feature protects against over-drying.

SEYCO Sizing, the result of more than 45 years experience and constant research, makes for fewer interruptions and greater uniformity of product.



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PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS • TWIST SETTER MACHINES •

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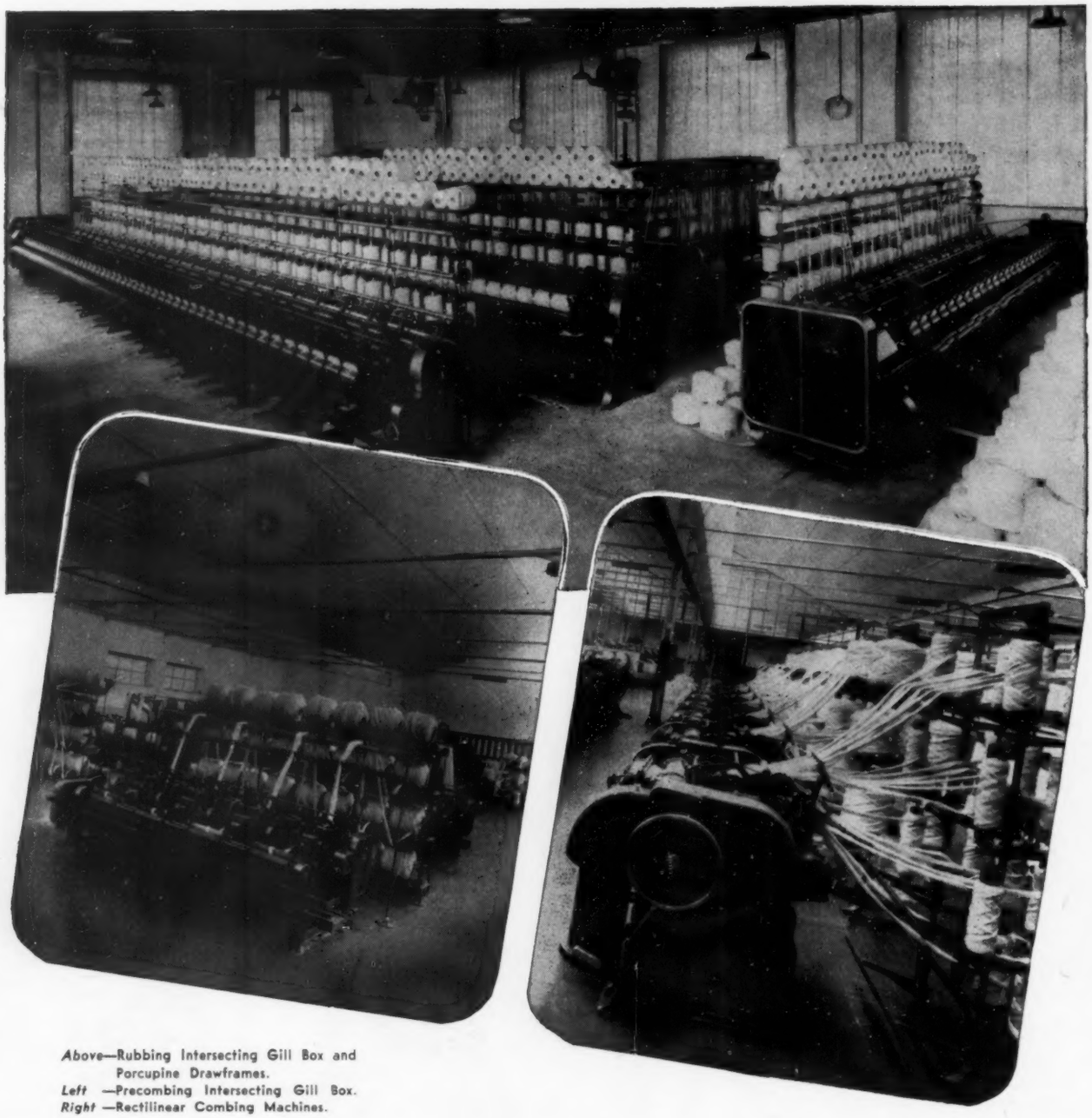

Above—Rubbing Intersecting Gill Box and Porcupine Drawframes.
Left —Precombing Intersecting Gill Box.
Right —Rectilinear Combing Machines.

We manufacture a complete line of machines for combing and spinning of wool, ramie, rayon synthetic fibers and blends.

25 Years' Experience. Our Machines Are Running in Hundreds of Mills All Over the World.

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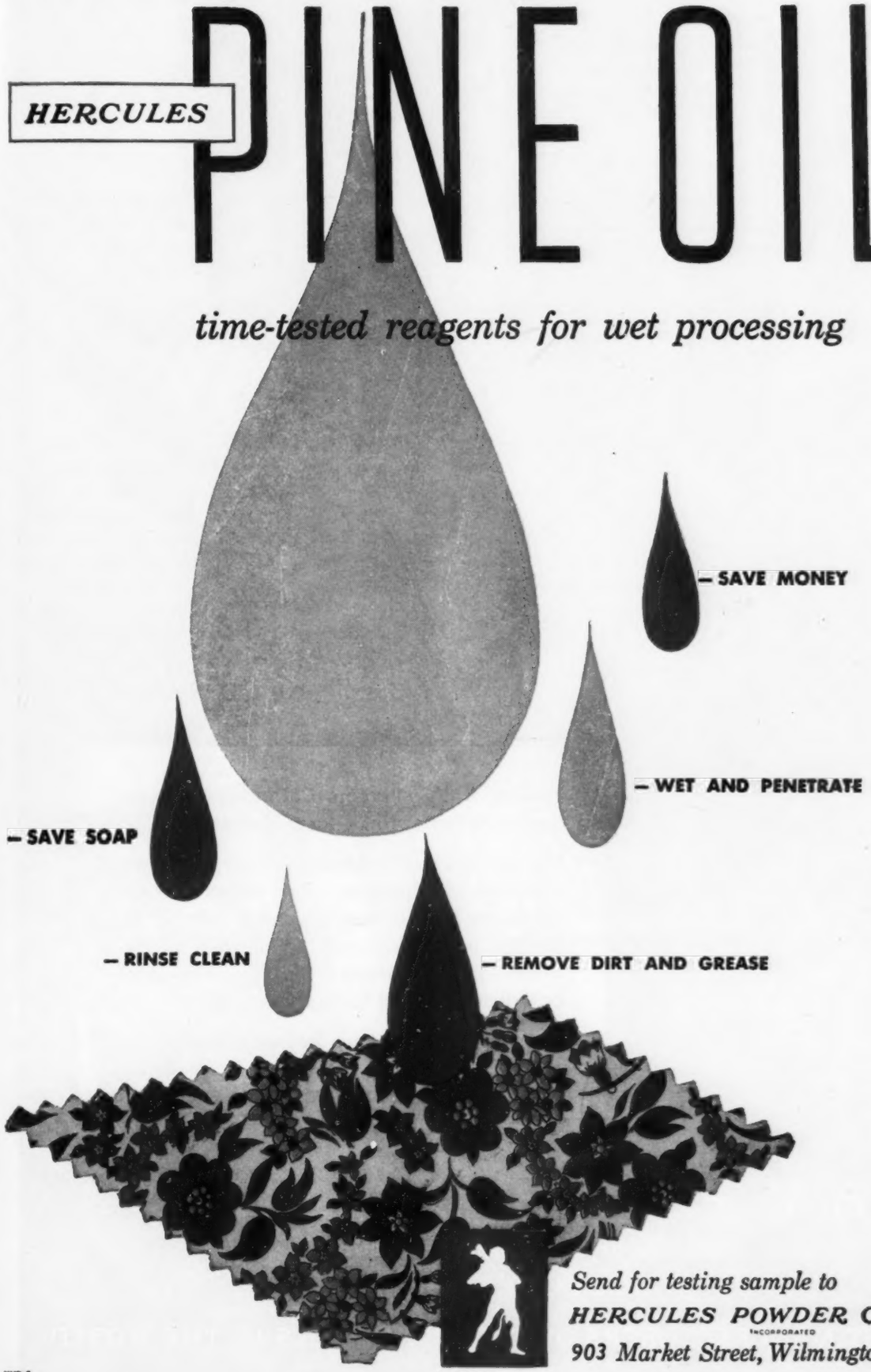
one quality . . . the highest

HERCULES

PINE OILS

time-tested reagents for wet processing



Send for testing sample to
HERCULES POWDER COMPANY
INCORPORATED
903 Market Street, Wilmington 99, Del.

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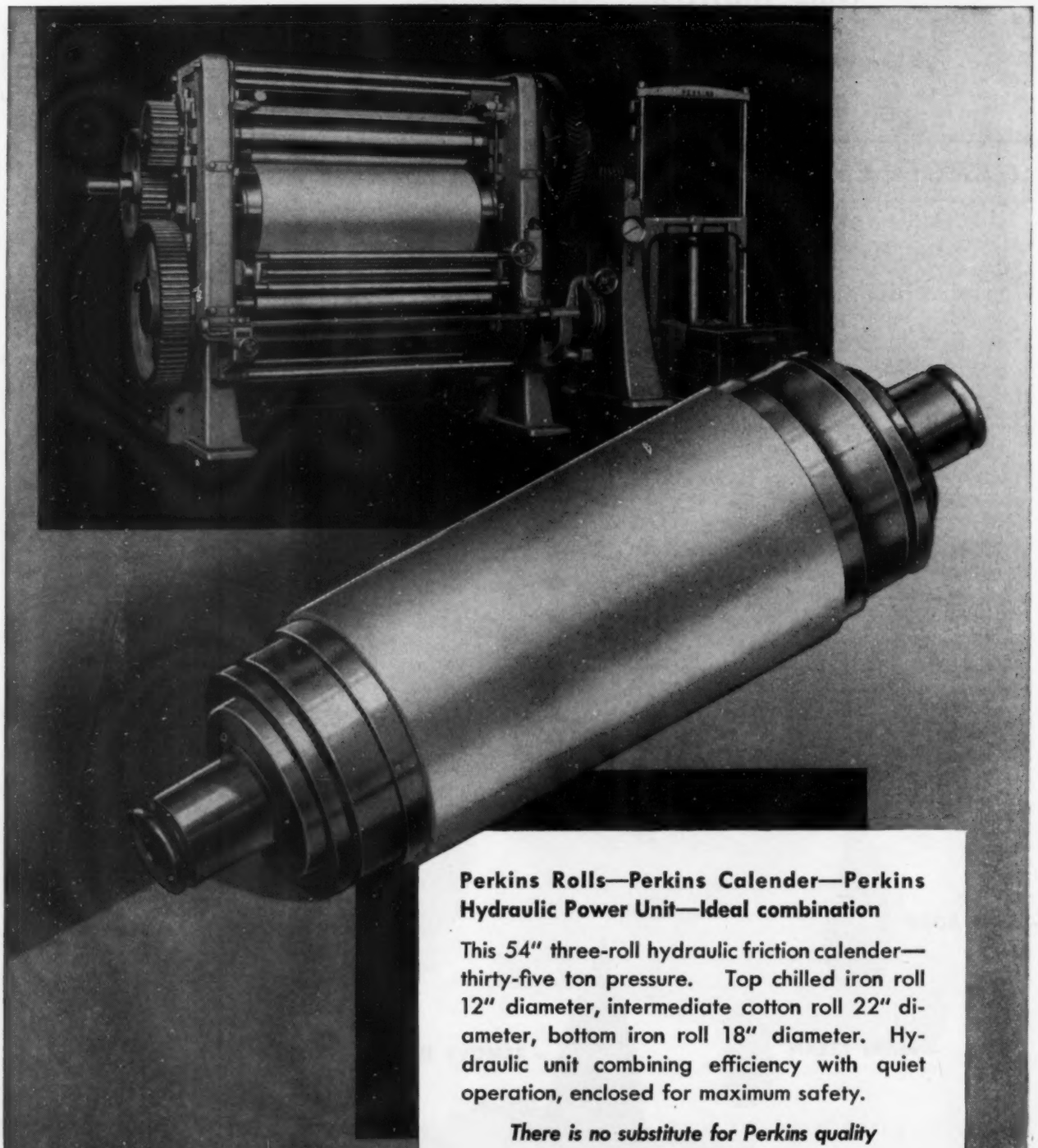

Perkins Rolls—Perkins Calender—Perkins Hydraulic Power Unit—Ideal combination

This 54" three-roll hydraulic friction calender—thirty-five ton pressure. Top chilled iron roll 12" diameter, intermediate cotton roll 22" diameter, bottom iron roll 18" diameter. Hydraulic unit combining efficiency with quiet operation, enclosed for maximum safety.

There is no substitute for Perkins quality

B. F. PERKINS & SON, Inc.

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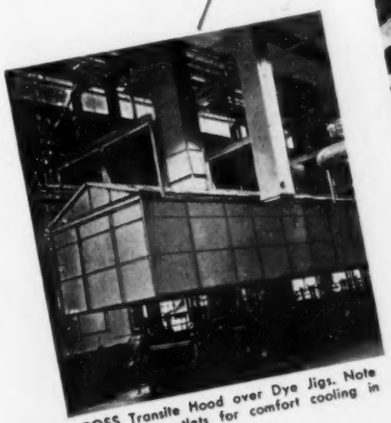
LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

MILL MODERNIZATION

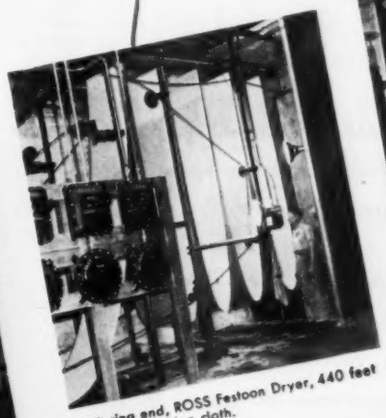
calls for the modern air systems

In practically all of the major new plant, expansion and modernization projects during the past few years, the more advanced types of AIR systems have been installed. To insure maximum production efficiency and operating economies, ROSS Air Systems are being successfully employed to effectively confine and remove vapors from processing equipment and speed drying, to prevent spoilage of goods from condensation and drip from ceilings and walls, to eliminate fog and provide comfort cooling for improved working conditions—to heat, cool, dry and ventilate by means of controlled air.

These modern ROSS Air Systems are not merely a grouping of units but complete, carefully engineered systems designed to form an integral part of the plant's processing equipment. They embody, as required, panel constructed hoods for dye jigs, dry cans, etc., vapor absorption and exhaust apparatus, air make-up, roof heating and ventilating ducts, waste heat recovery apparatus, cooling systems for aisles, motors, generators, etc. and room air conditioning. Long experience with industrial air handling problems is reflected in the advanced design and construction of ROSS Air Systems for textile plants. Let us survey your requirements. Contact our office nearest to you.



ROSS Transite Hood over Dye Jigs. Note ducts and outlets for comfort cooling in operating aisles.



Entering end, ROSS Festoon Dryer, 440 feet long, for awning cloth.

ROSS Drying and Fusing Oven, 150 feet long, for organisol and pyroxylin — leaving end.

ROSS Air System duct distributing heated air over ceiling.

ROSS SYSTEMS FOR FINISHING PLANTS

HEATING • VENTILATING • COOLING • DRYING

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SEVEN REASONS WHY

ALKAMERCE

is the ideal Mercerizing Penetrant

1 ALKAMERCE may be dissolved directly in the mercerizing caustic.

2 ALKAMERCE does not lose its wetting power on standing.

3 ALKAMERCE does not form a scum in the caustic.

4 ALKAMERCE is easily washed out of the goods.

5 ALKAMERCE has a low solvent effect on cotton waxes and pectins.

6 ALKAMERCE will not foam or cause sludge formation in caustic recovery systems.

7 ALKAMERCE has a low exhaustion rate, i.e., it is only slightly absorbed by the cotton, thereby permitting larger quantities of cotton to be treated before further additions of penetrant are necessary.

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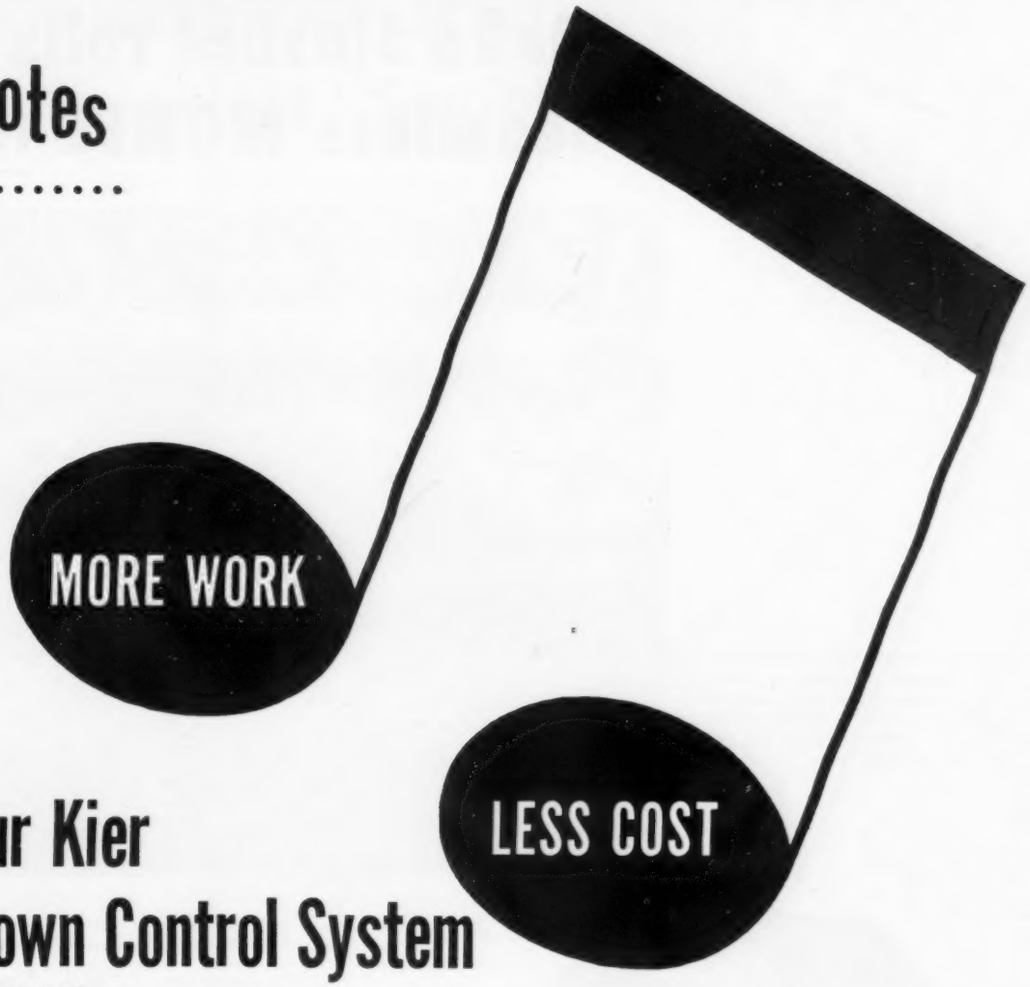
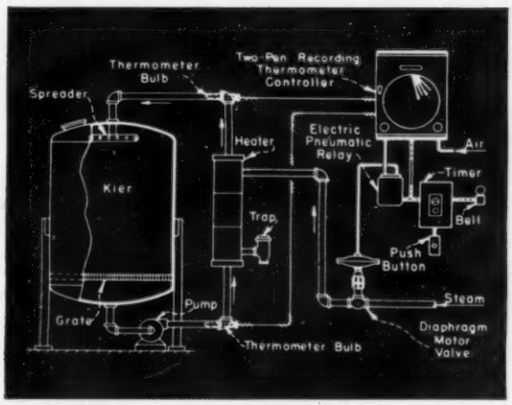
Send for your copy of booklet "Mercerizing and ALKAMERCE — The Ideal Dry Mercerizing Penetrant."

THE HART PRODUCTS CORP.
1440 Broadway, New York 18, N. Y.

happy notes



when your Kier has a Brown Control System



▲ *Brown Control System for Externally Heated Kier . . . available in slightly different form for Internally Heated Kier.*

Let a Brown Control System take over the time and temperature cycles of your Kier Boiling . . . and watch your production go up and your operating costs come down.

You'll get uniform treatment of each batch and the instrument chart will give you a complete record for future reference and guidance. Brown automatic control raises Kier temperature at the highest practicable rate and provides the greatest production in a minimum of time. Kier operates automatically . . . from push-button start to alarm signal ending . . . freeing personnel for other duties.

It all adds up to more work done, at less cost!

Call in your local Brown engineer for free consultation and advice . . . or write for a copy of Data Sheet #8.1-8 for detailed information.

MINNEAPOLIS-HONEYWELL REGULATOR CO.
BROWN INSTRUMENTS DIVISION
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Advanced Instrumentation
FOR THE TEXTILE INDUSTRY
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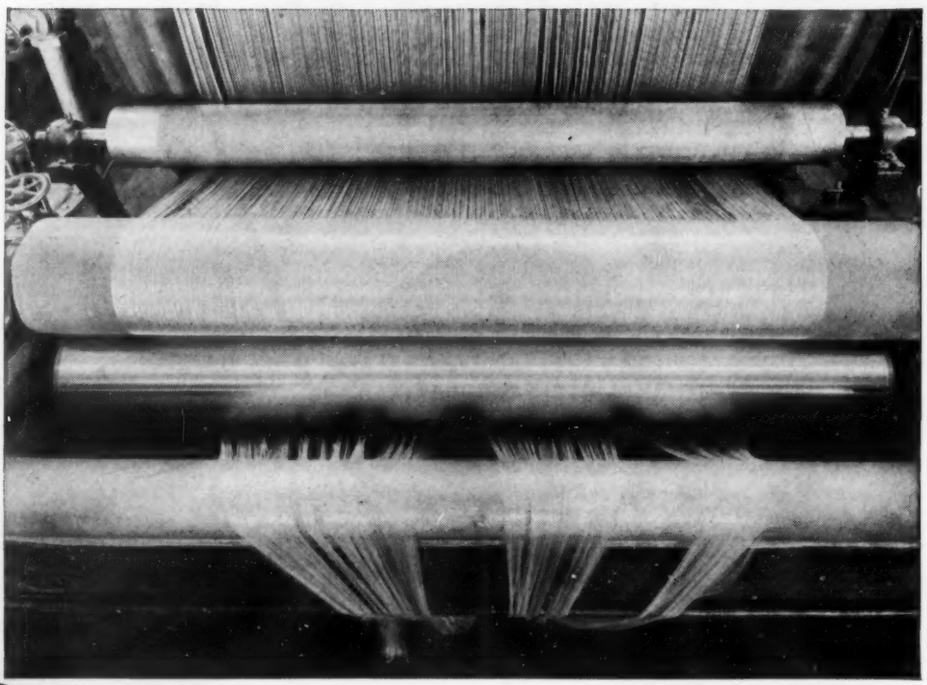
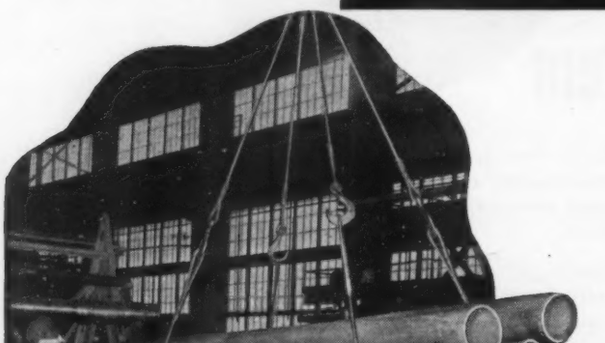
Make Slasher rolls from Seamless MONEL tubing

The easy way!



Monel covering eliminated the need for frequent refinishing of these rayon slasher rolls. Rolls such as these can now be made from Monel extruded tubing subsequently machined to finished size.



Lifting a load of extruded tube shell at Inco's Huntington, W. Va. mill. Monel, Inconel, and Nickel seamless extruded tubing is now available in outside diameters up to 9¼".

EMBLEM OF SERVICE

NICKEL INCO ALLOYS

Monel* • "K"* Monel • "R"* Monel • "KR"* Monel • Nickel "D"* Nickel • "L"* Nickel Inconel* • Duranickel* Permanickel* • Inconel "X"*

Seamless extruded Monel tubing is now available in outside diameters up to 9¼", with wall thicknesses from ¼" to ⅝".

This means that you can make rustproof, corrosion-resistant slasher and other textile rolls easily and economically by machining the seamless tubing down to size. Monel* is readily machinable; will take and *keep* a smooth polish.

Monel is highly resistant to the destructive action of many dyehouse chemicals including all sizing compounds.

Cleaning is easy, too. Flushing with fresh water is usually all that is needed to keep Monel surfaces clean.

Whenever you need rolls . . . new or replacement . . . check with Inco. You may find that the newly available seamless extruded tubing will enable you to get *better* rolls at an economical cost.

For further information and quotations, write directly to Inco.

THE INTERNATIONAL NICKEL COMPANY, INC.

67 Wall Street, New York 5, N. Y.

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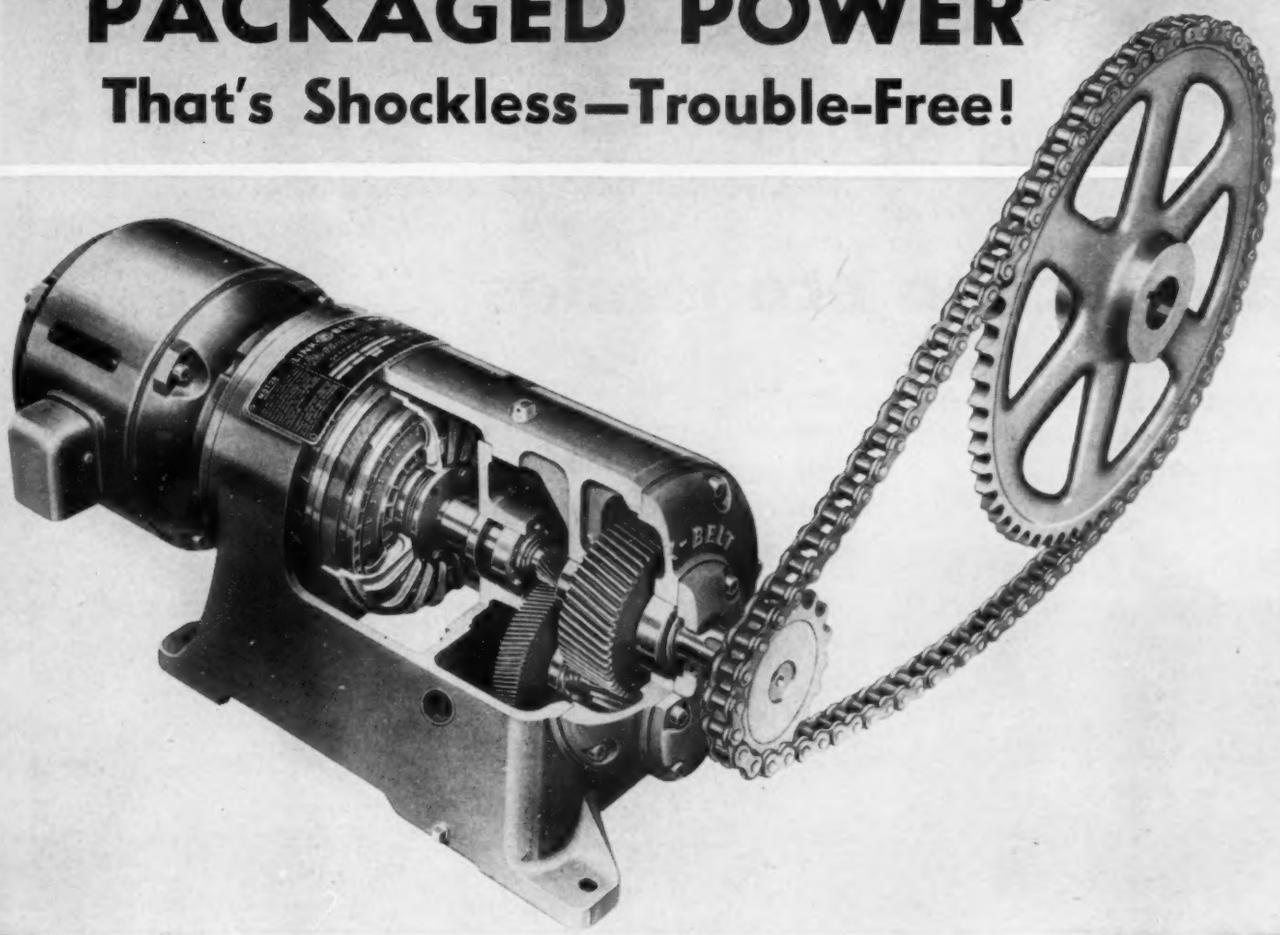
"PACKAGED POWER"

That's Shockless—Trouble-Free!



LINK-BELT *Electrofluid* GEAR DRIVES WITH PRECISION STEEL ROLLER CHAIN

The Ideal Slow Speed Drive

The advantages of the Electrofluid Drive are available on virtually any power application through combination with other Link-Belt enclosed gear and chain drives. Above is shown one such combination which will afford shock-proof, economical power transmission at low speed.

Three principal advantages of this drive are:

(a) It provides smooth power transmission, assuming the load gradually and eliminating shocks which could damage material in process.

(b) It prevents damage to costly power-driven equipment and eliminates work stoppages.

(c) It permits the use of a smaller motor than ordinarily required to handle starting loads—improves power factor and overall efficiency.

Ask for Book No. 2385 giving full details and application suggestions.

TYPES OF LINK-BELT POWER TRANSMISSION MACHINERY

Precision Steel Roller Chain	P.I.V. Variable Speed Drives
Silverstreak Silent Chain	Fluid Drives
Steel and Malleable Chain	V-Belt Drives
Worm Gear Drives	Ball Bearings
Herringbone Gear Drives	Roller Bearings
Helical Gear Drives	Babbitted Bearings
Gearmotors	Couplings, Clutches, Collars, etc.

LINK-BELT COMPANY Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Dallas 1, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities. 11,237-B

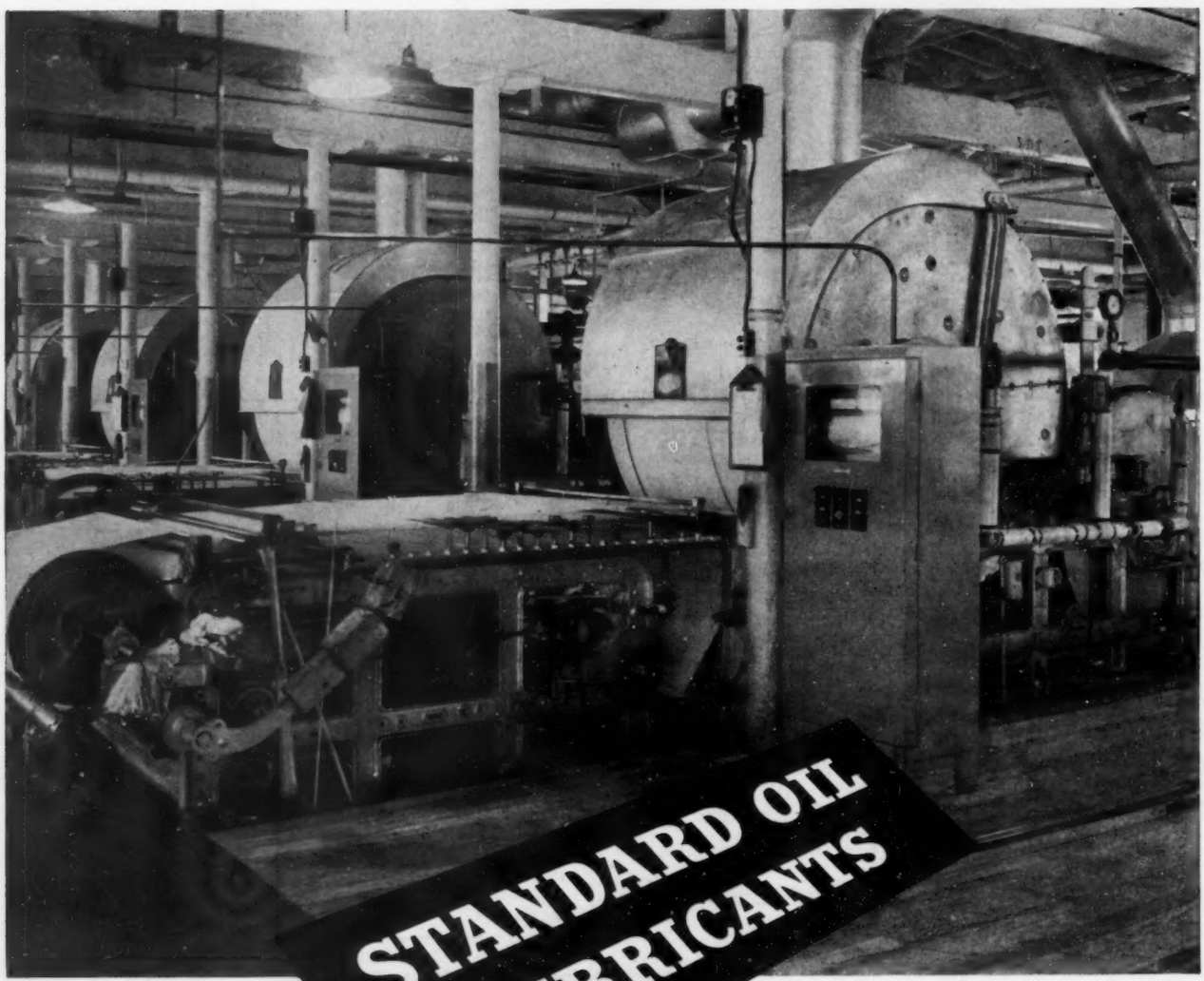
LINK-BELT

Power Transmission Machinery

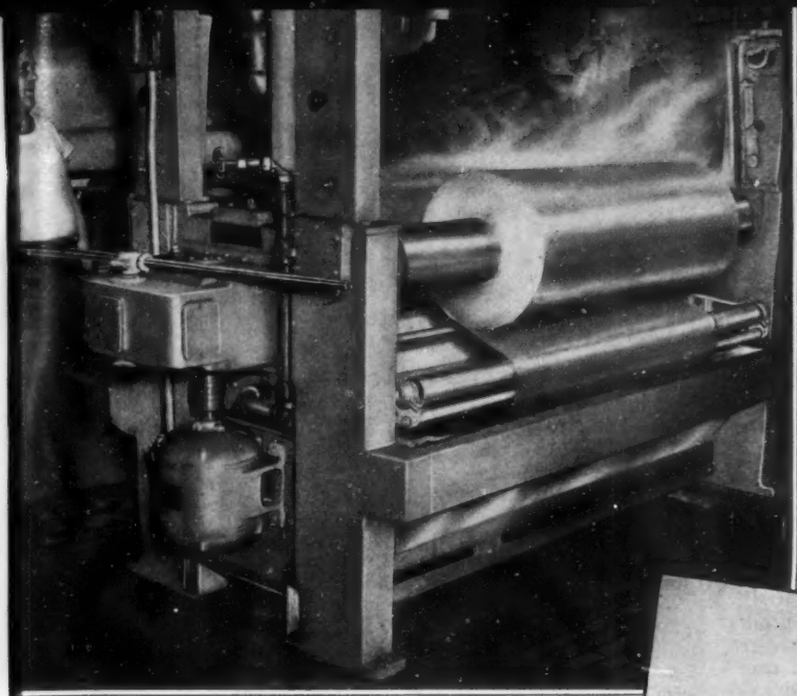
"THE COMPLETE LINE"

production economies

The competitive conditions existing in the textile industry today make production *economies,* or *increased* production, almost essential...Correct lubrication can play a major part in *both!*...The *exactly right* lubricant for each machine will effect production economies by reducing power consumption, machinery wear(and subsequent replacements), and maintenance costs...On the increased production side, correct lubricants can be of vital assistance in enabling machinery to operate faster and longer, and reducing "downtime" by extending the time between scheduled overhauls...Your Standard Oil representative is qualified, by training and long experience, to assist you in the selection of *correct* lubricants. He knows a lot more about lubricants beyond just the selling of them. Why not call him in?



STANDARD OIL COMPANY INCORPORATED IN KENTUCKY



Actual photograph of Van Vlaanderen C.T.* Jig in operation at Vitromar Piece Dye Works, Hawthorne, N. J.

CT* A New Standard IN JIG PERFORMANCE

It will pay you to read the letter reproduced here. It gives actual jig room results proving the new Van Vlaanderen C.T.* Jig is the most versatile and rugged jig you can buy today. Better tension control, freer idling, easier and cleaner operation, capacity for larger cloth rolls and better production are all here, allowing you to turn out quality goods at lower cost.

*Controlled Tension

IMPORTANT FEATURES: New, compact worm type main drive in oil with dry clutches and anti-friction bearings to reduce drag resulting in better tension control. Chains and sprockets completely housed (running in oil) to reduce wear and maintenance and for clean operation. Entire drive system controlled by shifter lever operated from either end. Main drive unit can be dismounted and spare drive unit mounted in half hour. Heavy vibration free cast iron frames, stainless steel tank, 7¼" rubber covered rolls, new overflow arranged sideways, guide rolls stainless steel. Oscillating type expander unit with stainless steel curved bars and immersed rolls. All guide rolls mounted on special stainless steel roller bearings. Better tension control with redesigned malleable iron brakes and tension indicator to permit quick and accurate readings. Other type brakes if desired.

We have made arrangements to show you this machine in actual plant operation. Write us.

Vitromar Piece Dye Works
Hawthorne, New Jersey

September 15, 1949

Mr. C. H. Van Vlaanderen, President
Van Vlaanderen Machine Company
370 Straight Street
Paterson 3, New Jersey

Dear Mr. Van Vlaanderen:

You will be glad to know we are so pleased with the new C. T. Jig which we bought last year that we have decided to order twelve now and expect to order more.

Our jig room has a lot of machines of various makes. From experience we have found that many jigs have limitations — doing good work on one type cloth and not so good on another. We had about resigned ourselves to that condition.

When we began running your new C. T. Jig, we tested it out to see where it would fit in. We were surprised that it seemed to have no limitations — it does superior work on every cloth that can be jig dyed. The results have been universally good on every batch.

Frankly we were doubtful at first that the Van Vlaanderen C. T. would justify its higher original cost. It is only now — after a year of trouble-free service — that we are convinced that the cost is justified. It has operated every week on a 24 hour, six day schedule. In several periods, when the plant was on a seven day week, the C. T. Jig was not idle a single hour for a month's time. Upon inspection of the operating parts we find no appreciable wear and no service required. We expect it to do a big job without maintenance for years to come. We will go out on a limb and say it looks like it will give ten times the usual service before repairs will be necessary.

Yours very truly,

Albert Martinelli

President

VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, Paterson 3, New Jersey · Cable address: Vlaanderen, Patersonnj, U.S.A.

World's largest manufacturer of machines for processing modern fabrics

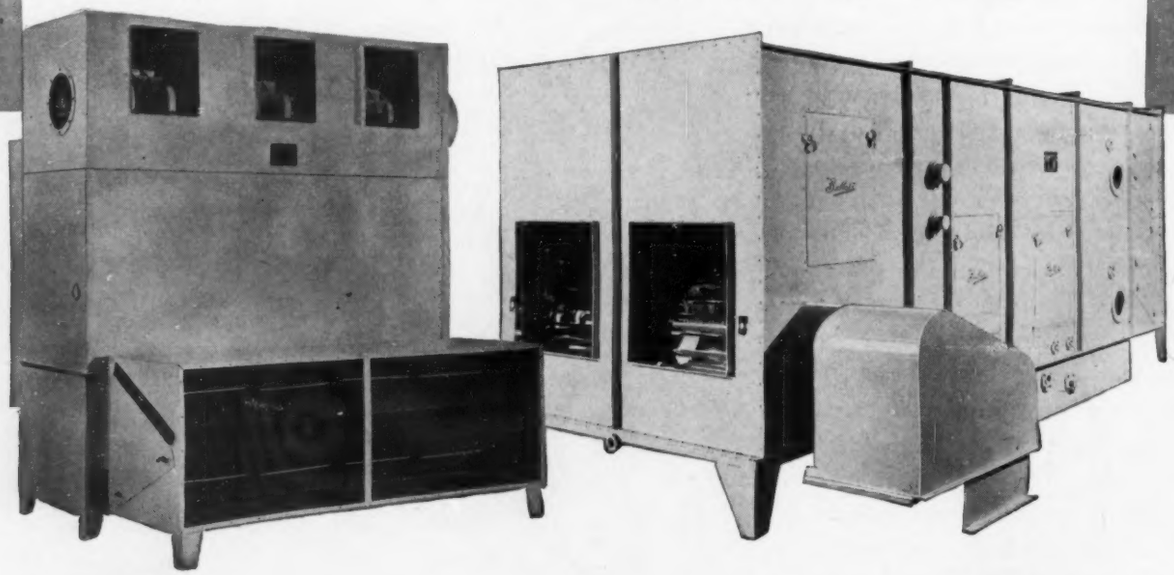
Not AN "IMPOSSIBILITY" FOR YOUR PLANT— BUT AN IMPORTANT PRODUCTION AID!

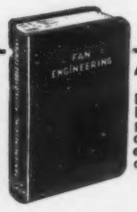
LOW-COST, SIMPLIFIED *AIR CONDITIONING* BY "BUFFALO"

More and more modern plants ARE using "Buffalo" air conditioning, not on starry-eyed speculation, but for good, hard-headed business reasons!

First, these "Buffalo" Units are CONTROLLING plant climate—providing clean, properly humidified air at the right temperature constantly. Outside, let it snow, blow, rain or become hot or "muggy"—it's always comfortable inside. Workers do a better job faster, absenteeism from sickness declines. And produce quality is held to a uniform, high standard with the help of this clean, tempered air that's always exactly controlled.

Secondly, "Buffalo" units are developed to the point where installation and servicing are SIMPLE and relatively inexpensive. The VPC Cabinet, lower left, for example, comes in three basic interchangeable sections—can be moved in through standard plant doorways—takes very little space—and still provides COMPLETE Comfort conditioning in several sizes, up to 22,000 cfm. The "Buffalo" PCGW Cabinet, lower right, thoroughly WASHES and filters your air and provides temperature control in a remarkably compact, easily serviced unit. INVESTIGATE the benefits of "Buffalo" Air Conditioning in your plant—it will pay for itself quickly and in higher production!





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FAN ENGINEERING, 5th Edition, is industry's "Bible" on air and air problems. 808 pages, pocket size. Thoroughly indexed for quick reference. No engineer should be without it! Send check or M. O.

$6.00 Postpaid in U.S.A.

FIND OUT ABOUT the dependable "weather" these "Buffalo" Units can maintain in YOUR working areas—facts are yours for the writing in this Bulletin 3703. WRITE NOW!

FIRST FOR FANS

"Buffalo" BUFFALO FORGE COMPANY

175 MORTIMER ST. BUFFALO, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont. Branch offices in all Principal Cities

VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT EXHAUSTING PRESSURE BLOWING

Announcing New GOULDS Stainless Steel Pumps...

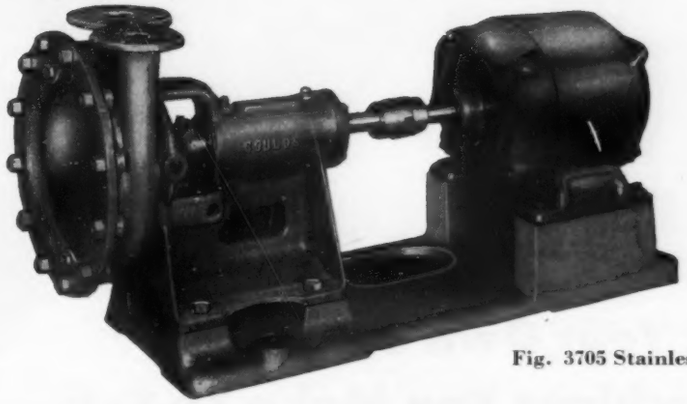


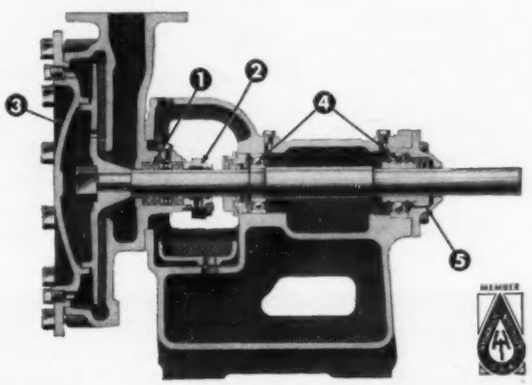
Fig. 3705 Stainless Steel Centrifugal

For outstanding service in handling corrosive liquids —*Goulds Stainless Steel Centrifugals*

Goulds Fig. 3705 Stainless Steel Centrifugals represent the last word in advanced pump design. They will give efficient, dependable service in handling corrosive liquids—at low cost.

CAPACITIES Made in 8 sizes to handle up to 750 G. P. M. with heads to 180 ft. depending on capacity.

Outstanding Economy in Design and Performance



CHECK THESE FEATURES

1. Stuffing box under suction pressure only—This assures long packing life and freedom from excessive leakage.
2. Cowl type stuffing box gland split on 45° angle —Easy to disassemble. Single and double mechanical seals also available.
3. Piping connections in casing—You can inspect or clean pump by removing case cover without disturbing connections. You may also remove impeller in the same way.
4. Bearings - Prelubricated and fully protected from liquids pumped.
5. Can be adjusted for wear—If wear eventually occurs between impeller vanes and casing, you can adjust clearance using outboard bearing locking collar.

See this pump on display at our exhibit at the 22nd Exposition Chemical Industries, Grand Central Palace, New York, from November 28th to December 3rd. Booth 625.

For complete information on this advance design Stainless Steel Pump send coupon for FREE Bulletin.

Goulds PUMPS INC. Seneca Falls New York

GOULDS PUMPS INC., Dept. TI, Seneca Falls, N. Y.

Please send your FREE Bulletins . . . to:

Name _____

Company _____

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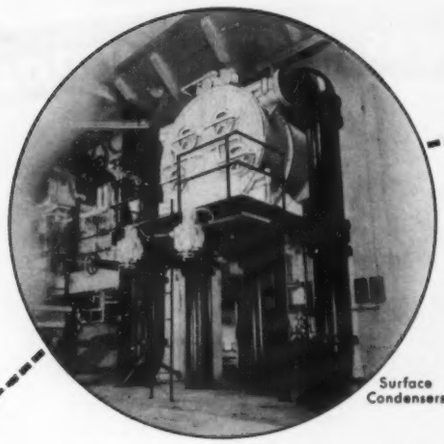
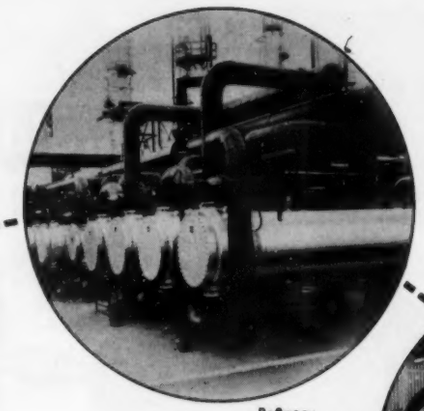
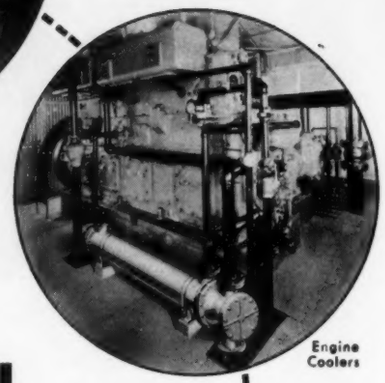
City _____ State _____



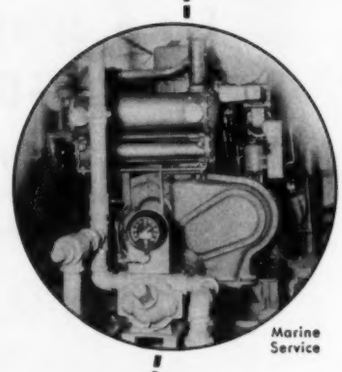
Surface Condensers



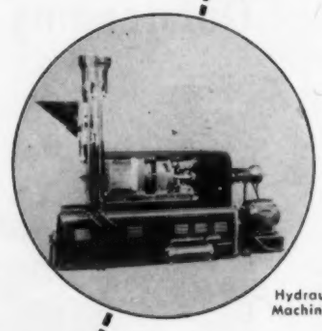
Refinery Exchangers



Engine Coolers



Marine Service



Hydraulic Machinery

For Your Own Use, Or On The Machines You Make To Sell

YOU'LL GET JOB-MATCHED PERFORMANCE FROM THESE STANDARDIZED EXCHANGERS

For a big 27,000 sq. ft. surface condenser down to a little 2-inch oil cooler, Ross standardization today means new highs in job-matched performance and new lows in unit costs.

You may be outfitting a power plant, a petroleum refinery or a chemical plant requiring large capacity heat exchanger equipment . . . or you may be selecting smaller exchangers as accessories for the Diesels, compressors or hydraulic equipment which you use or make for sale to others. Neither the size, nor the type of service, nor the operating conditions present a challenge to Ross standardization . . . for Ross has standardized *successfully* on practically everything that is required in heat exchanger equipment.

This means, naturally, that the time-robbing, cost-mounting aspects of custom fabrication are avoided wherever Ross standardization suffices . . . and it more than suffices in most instances. But, where it doesn't, you still have available the industry-leading experience in special engineering and custom fabrication for which Ross has been known some 30-odd years.

ROSS

EXCHANGERS... *MAKE OTHER PRODUCTS BETTER*

★ **PREVIEW ROSS STANDARDIZATION** by requesting free Bulletin 4300, then review it with a Ross engineer who will gladly consult. ROSS HEATER & MFG. CO., INC., Division of American Radiator & Standard Sanitary Corp., 1461 West Ave., Buffalo 13, N. Y. In Canada, Horton Steel Works, Ltd., Fort Erie, Ont.

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Rayon Reports

Washability a key to expanding rayon markets

In assessing the future of rayon it becomes more and more apparent that washability can provide one of the surest routes to expanding markets. Mills with a forward-looking point of view have already discovered that it is good business to recognize the opportunities inherent in washable rayon fabrics. In order to realize the full possibilities they are not only working closely with their customers in giving special attention to the most suitable constructions, but they are acquainting themselves with the important advances in dyeing and finishing that have today made washable rayons a practical reality.

The success of these new processes in attaining a fabric that can be washed by standard methods without fading, shrinkage or change in fabric character is being demonstrated every day. Stores the country over report that never before have consumers been so insistent that rayon shirts, lingerie, blouses, dresses, curtains and other articles of merchandise withstand ordinary laundering.

This demand shows the direction in which the rayon industry must move if its past record of growth is to be extended in the future.

By encouraging greater usefulness for rayon through technical improvements not only in weaving but in dyeing and finishing, rayon will be able to enter many new markets.

Filatex Corporation Now Division of Avisco

New York, Oct. 1 – The Filatex Corporation, a wholly-owned subsidiary, became the Filatex Division of American Viscose Corporation, the parent company on October 1.

Filatex makes a widely used brand of elastic yarn under that name. It has a latex core continuously produced by a unique patented process which results in such advantages as superior aging properties. The core is made at the Fredericksburg, Va., plant of Avisco's Sylvania Division, and shipped to Avisco's Roanoke, Va., plant, where it is covered variously with rayon, nylon, and cotton. Filatex is used chiefly in women's foundation garments, the tops of men's half hose, and in bathing suits.

RAYON 20 YEARS AGO

PARIS, November, 1929—A suit of shantung rayon was the hit of the just completed Biarritz season. The same fabric is being promoted for Riviera wear.

NEW YORK, November, 1929—American producers have organized the Rayon and Synthetic Yarn Association to promote the use of rayon fabrics. S. A. Salvage, of Viscose Co., has been elected first president.

NEW YORK, November, 1929—Manufacturers are reviewing many requests for information about rayon fabrics from tropical countries. Calls are reported from as far as Singapore to learn about the rayon chiffons for hot-climate wardrobes.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

Which of These STALEY Men Works with You on Your Textile Starch Problem?

ALLEN R. FULLER

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If you haven't already consulted one of these Staley representatives about your sizing problems and starch needs, do so right away! Take full advantage of their scientific knowledge, of the famous Staley laboratory that has guided textile men for more than a quarter of a century! Let a Staley man tell you AT NO EXTRA COST which starch is the best for each of your needs. Then, count on Staley to deliver the recommended starch in uniformly high quality throughout the years. Whether it be thin or thick boiling starch, Staley skilled laboratory technicians rigidly control it to give you dependable performance with every shipment. Write today for more details.

THE COMPANY BEHIND THESE MEN . . .

This is the great Staley plant where skilled laboratory technicians work to guarantee you consistently high quality starch to eliminate your sizing problems, and give your textiles improved weavability, constant weight and better finish.

STALEY STARCHES

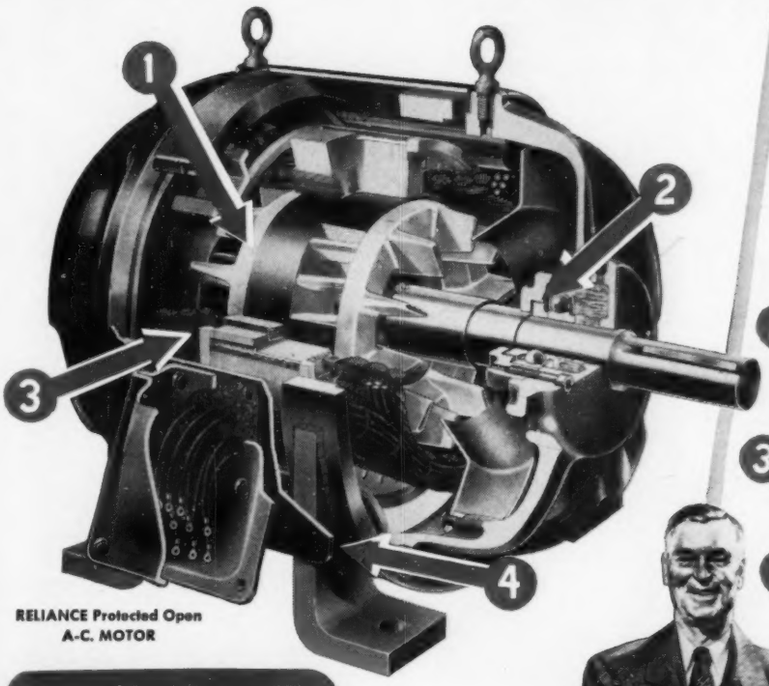
Staley's CORN AND SOY BEAN PRODUCTS

"ECLIPSE," MILL*, and PEARL

*Thin Boiling

A. E. STALEY MFG. CO., DECATUR, ILL., U. S. A.

WHO SAYS "All Motors are Pretty Much Alike?"



RELIANCE Protected Open A-C. MOTOR

These Four Features Alone make RELIANCE the motor for you!

1. **Dynamic Balancing — Precision Fits** — Every motor is dynamically balanced by skilled technicians using latest electronic-principle equipment. Machining of parts to exacting tolerances guarantees precision fits throughout. Result: a smoother-running, longer-lasting motor!
2. **No Lubrication Worries** — Precision Bearing Mounting, with double-shielded ball bearings, assures longer bearing life under all normal conditions, whether overgreased, undergreased or not greased at all. "*You can't grease 'em wrong!*"
3. **Reli-X Insulation** furnishes a new high in the protection of stator windings. Selected materials, exclusive methods and new continuous-sequence applications make this the *unfailing* insulation!
4. **Steel for Strength** — Steel construction, with electrically welded joints, combines maximum strength with minimum weight.

RELIANCE *Precision-Built* **MOTORS** . . . are made **better** to deliver **DEPENDABLE POWER — LONGER!**

Reliance has a way of building motors that must be seen to be fully appreciated. Any time we can take a motor user through the modern plants where Reliance *Precision-Built* Motors are made, we can be reasonably sure of another good Reliance customer. We would be delighted to have you make this visit. But if it isn't practical, call in your nearest Reliance representative and *see* the convincing facts he can show you on the precision methods that produce these truly superior motors.

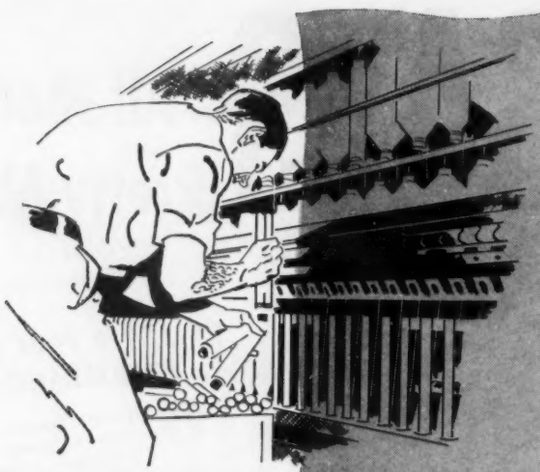
HOW TO SELECT THE RIGHT MOTOR

Here's a book which digests all the information you should have in selecting the motor that's just right for any job. New torque and current standards recently adopted by the National Electrical Manufacturers Association for A-c. motors are tabulated and explained. And these are further supplemented by more detailed performance data on Reliance *Precision-Built* Motors. Write today for this important new Motor Data Bulletin, B-2101.

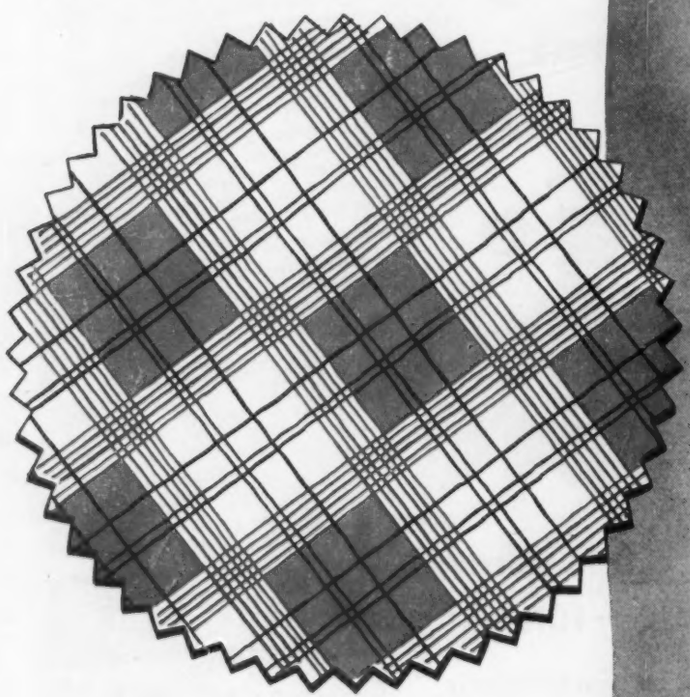
Sales Representatives in Principal Cities

RELIANCE ELECTRIC AND ENGINEERING CO.

"Motor-Drive is More Than Power" • 1085 Ivanhoe Road, Cleveland 10, Ohio



ALUMINUM IS LIGHT.... ALUMINUM IS STRONG



See the improvement it makes in spinning machines

Faster machines mean faster production. New spinners and twisters prove it with moving parts of Alcoa Aluminum. Aluminum's lightness speeds the machine cycle. Bearings last longer. Motion is more uniform and vibration-free. Aluminum's strength eliminates excess metal.

If you buy textile machinery, look for aluminum. It's a clue to faster production, longer machine life.

If you build textile machinery, look to Alcoa's Development Division for all the help you need. Alloy guidance, design and fabrication information are all at your disposal. Write ALUMINUM COMPANY OF AMERICA, 1473L Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA ALCOA ALUMINUM ®

ALUMINUM • MAGNESIUM

INGOT • SHEET & PLATE • SHAPES, ROLLED & EXTRUDED • WIRE • ROD • BAR • TUBING • PIPE • SAND, DIE & PERMANENT MOLD CASTINGS • FORGINGS • IMPACT EXTRUSIONS
ELECTRICAL CONDUCTORS • SCREW MACHINE PRODUCTS • FABRICATED PRODUCTS • FASTENERS • FOIL • ALUMINUM PIGMENTS • MAGNESIUM PRODUCTS

SANDOZ PRESENTS *The color achievement of the month*

Forever April ...BY DAN RIVER MILLS

The springtime colors in the fabrics of Dan River's new rayon suitings remain ever-fresh because they have been permanently captured by Sandoz CUPROFIX after-treatment.

This new method of after-treating the CUPROFIX line of *direct* colors preserves original shades against light, perspiration, dry-cleaning, hot wet pressing and washing. The use of CUPROFIX does not reduce fibre strength or affect the qualities of wrinkle-resistant treatments.

The CUPROFIX method has made it possible to process many fabrics to suit customer requirements without the expense of vat dyes. Many types of fabrics are now being dyed the CUPROFIX way at substantial savings in dyestuff costs — particularly when dyeing darker shades.

Ask the Sandoz representative to give you full information on the savings obtainable with CUPROFIX . . . particularly if you are using resins, you will be interested to learn about still faster colors with CUPROFIX.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

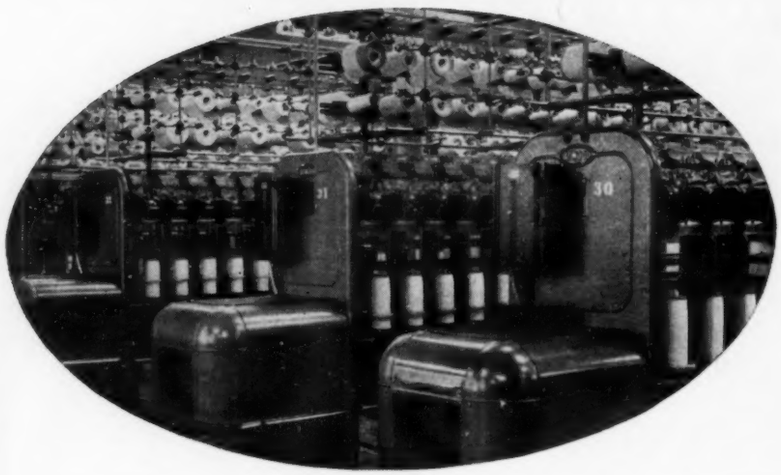
SANDOZ *thinks ahead with textiles*

VERNEY CORP.

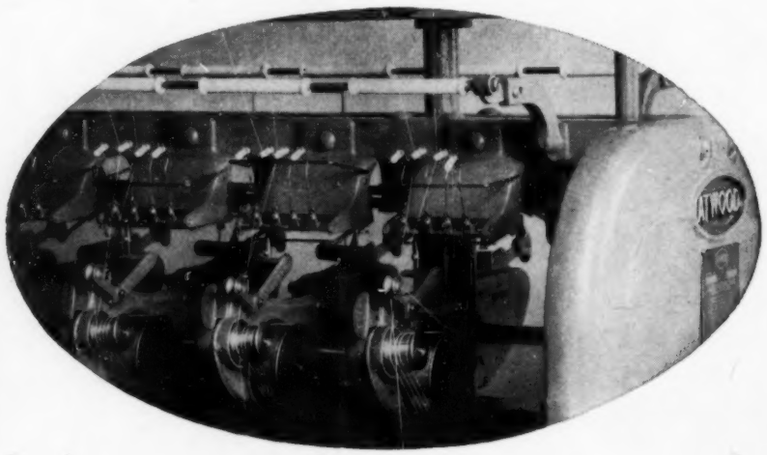
TWISTS SPUN RAYON ON MODEL 10'S

UNIFORM TWIST

IS GUARANTEED BY SEVERAL ATWOOD FEATURES



Twister bobbins of spun rayon, that are uniform from bobbin to bobbin and from spindle to spindle, are produced by The Verney Corp., Brunswick, Maine, on Atwood Model 10 Ring Twisters. These are the all-purpose ring twisters with automatic stop motions for each end and each ply.



Mounting of supply creel to provide free delivery . . . accurate control of tension . . . constant yarn speed delivered by *feed rolls* . . . smooth traverse of ring holder rail . . . rigid mounting of rings and ring holders . . . and use of one endless, lapless belt to give uniform speed from spindle to spindle . . . all contribute to accurate and uniform control of twist on the Model 10.

UNIVERSAL WINDING COMPANY

ATWOOD DIVISION

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland
Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

Model 10 ***automatic stop motion for each end and ply***

TEXTILE BANKING COMPANY

Inc.

Factoring Service

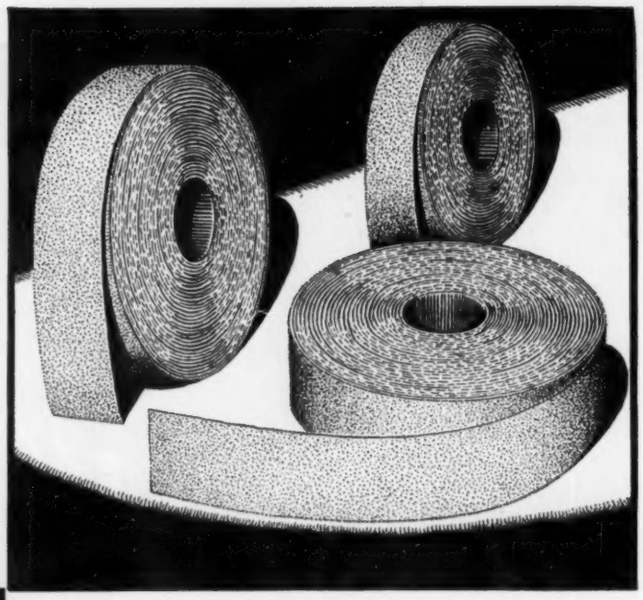
Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

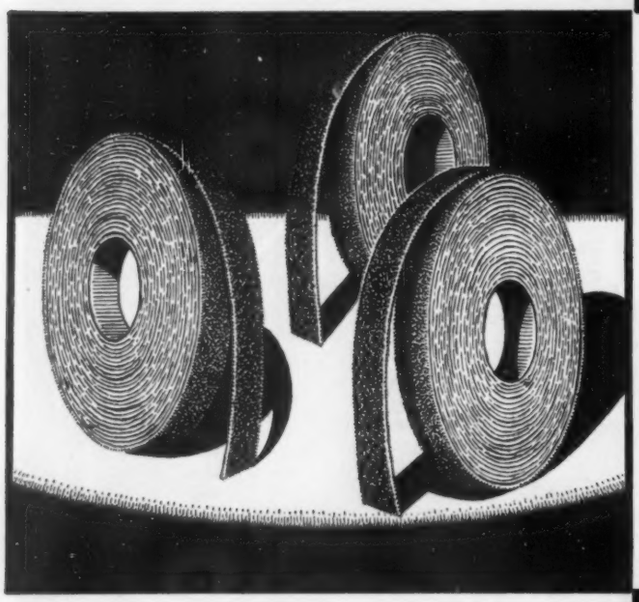
TEXALOX

Roll Covering

by CARBORUNDUM
TRADE MARK



The uniform grain surface of TEXALOX roll covering grips material with gentle firmness, draws it evenly through the rolls without vibration. It runs cleaner, resists wear and does not bulge, creep, stretch or break. A special coating resists acid and dyes . . . does not rust.



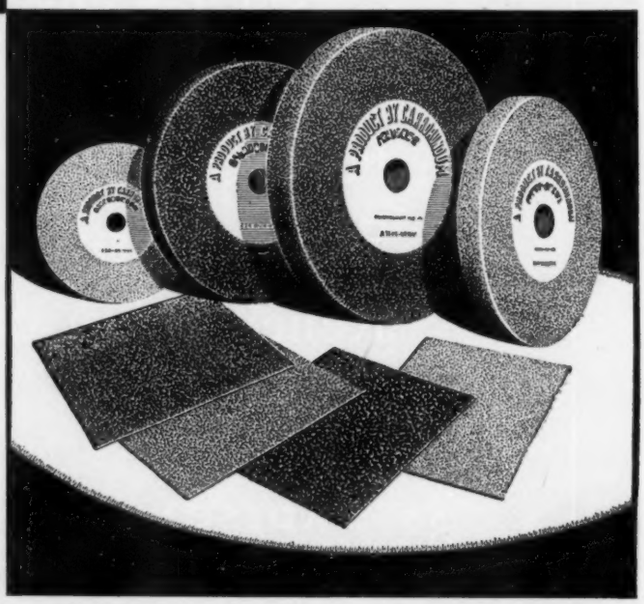
Fillet Cloth

by CARBORUNDUM
TRADE MARK

Both the volume and quality of slivers are improved by card clothing wires that are kept clean and sharp. Fast-cutting fillet cloth by CARBORUNDUM restores card clothing wires quickly and cleanly. No ganging. No bending. No hooking. The shedding of particles into the roving is avoided because the grains are securely bonded to heavy backings which are both flexible and stretch-resistant.

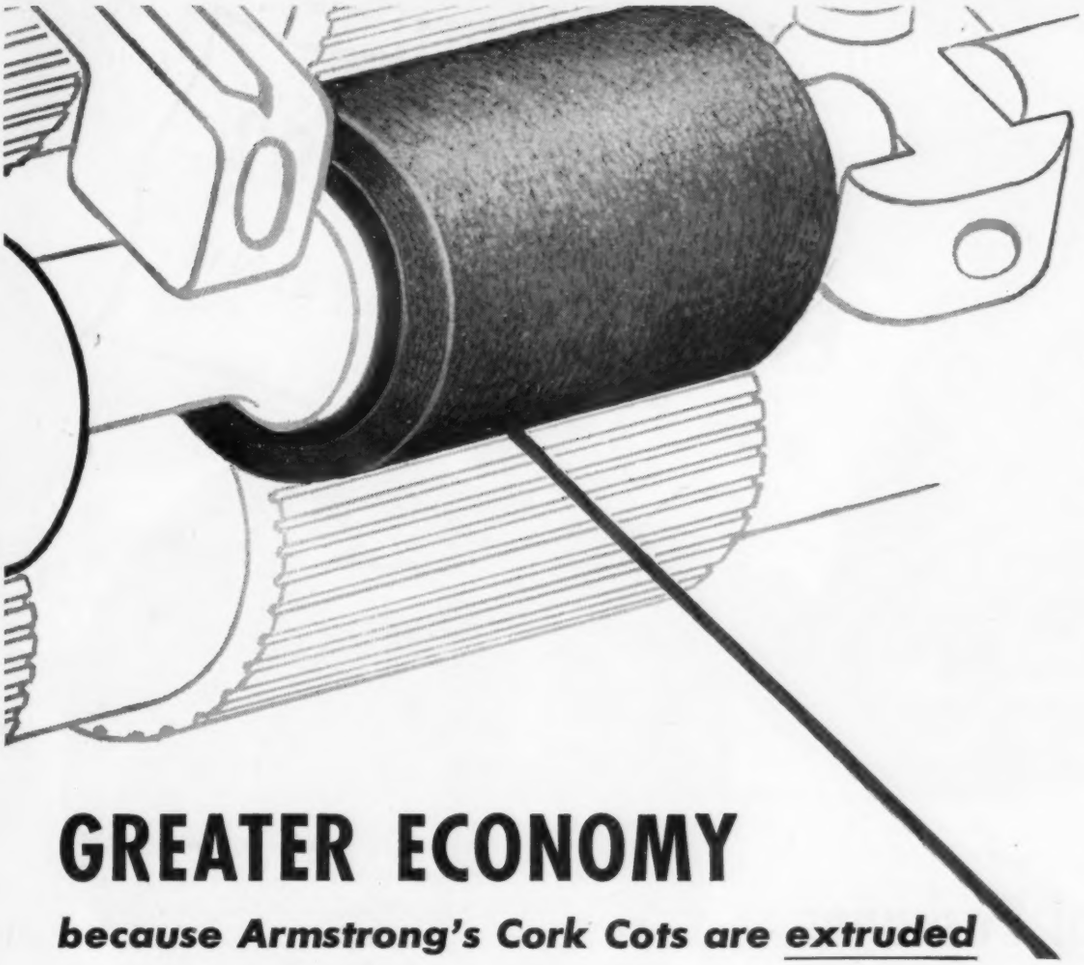
Abrasives

by CARBORUNDUM
TRADE MARK



For production, maintenance or tool room use, the right abrasive for the job is provided in a variety of grades, shapes and sizes of products by CARBORUNDUM. In specifying bonded or coated abrasives, it's an accepted practice to call in CARBORUNDUM. The Carborundum Company, Niagara Falls, N. Y.

"Carborundum" and "Texalox" are registered trademarks which indicate manufacture by The Carborundum Company



GREATER ECONOMY

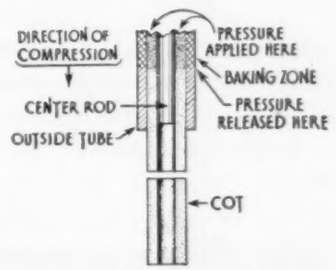
because Armstrong's Cork Cots are extruded

Armstrong's Cork Cots, made by the exclusive extrusion process, give you real spinning economy. They're low in first cost because the extrusion process is automatic. And because their molded surface is uniformly dense and seamless, Armstrong's Cork Cots give two to three years of front line service with most yarns. Compare this low cost and long life with your present roll covers and see why it is so much more economical to spin on Armstrong's Cork Cots.

You get this low-cost performance at no sacrifice in yarn quality. High friction cork grips fibers firmly to draft strong, uniform yarn. And there's no danger of eyebrowing because cork packs loose fibers well back on the clearers where they can't fall into the yarn. Armstrong's Cork Cots run cleaner, too. They reduce clearer waste as much as 50%.

These *extruded* cork cots can quickly prove themselves in your mill. Call your Armstrong representative and have him arrange for a test installation. Or write Armstrong Cork Company, Textile Products Department, 3611 Arch Street, Lancaster, Penna. These cots are available for export.

EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



Armstrong's Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger, more uniform yarn.

Better running work . . . more poundage

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

FOSTER MODEL 102
FOR PACKAGE DYEING

Typical Packages Wound at High Speed

A package dyer's production is limited to a large extent by the capacity of his winding department. Hence it is important for him to get maximum winding production with minimum investment, low operating cost and few repairs.

Foster Model 102's in the package dyeing industry are regularly running at high speed, giving twice the production of obsolete winding machines with a reduction in operating cost of 33 1/3%. Repair costs are also low, — as little as $3.50 per year per 100 spindle machine in many cases.

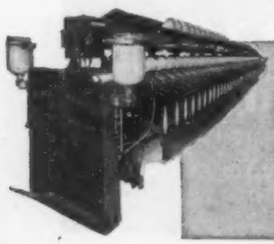
DYEING QUALITY MAINTAINED

With all these savings there is no sacrifice in package "dyeability". In fact the trend among dyers using Model 102's is toward larger and larger packages without loss in penetration or levelness. That's because the drum wind gives uniform yarn speed and therefore uniform package density.

ECONOMY FEATURES INCLUDE —

— self threading tension and slub catching attachment. Automatic size stop motions, which stop package at any predetermined diameter, eliminating hand gauging. Flexibility (angle of wind easily changed and machine may be readily equipped for cone winding if desired.)

Bulletin A-95 on request.



FOSTER MACHINE CO., Westfield, Mass., U. S. A.

Southern Office: Johnston Bldg., Charlotte, N. C.; Canadian Representative, Ross-Whitehead & Co., Ltd., University Tower Bldg., 660 St. Catherine St., West, Montreal, Quebec

US offers the FIRST entirely NEW Bobbins for synthetic yarn twisting...

New materials, new trouble-free design, and new precision construction methods are combined to produce

ACROPAK BOBBINS

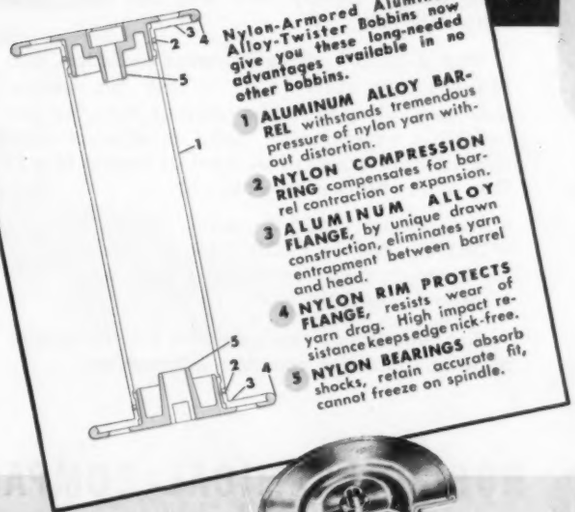
You've seen many "improvements" of conventional bobbins for processing synthetics. Now, for the first time U S brings you bobbins engineered from the start to overcome problems posed by nylon and similar fibers.

ACROPAK beats nylon's destructive pressure, with a super-strength barrel that will serve for years without distortion. Spindle bearing wear at today's high speeds is reduced, because ACROPAK Bobbins are lighter — have durability without "dead" weight.

ACROPAK design ends yarn entrapment between barrel and head, by eliminating the conventional joint at this point. It prevents slubs, breaks, and waste, because yarn flow over the smooth, tough, nick-resistant nylon rim is unimpeded.

ACROPAK Bobbins start true — stay true, because absolute concentricity is assured by manufacture to rigid specification, with precision dies, and new testing methods. Virtually indestructible in normal use, ACROPAK Bobbins can cut your bobbin cost-per-year to surprisingly low levels.

ACROPAK Bobbins can be made to fit most standard spindle dimensions and drives. Your U S representative is prepared to show you samples and discuss your synthetic yarn processing problems.



Nylon-Armored Aluminum Alloy-Twister Bobbins now give you these long-needed advantages available in no other bobbins.

1. **ALUMINUM ALLOY BARREL** withstands tremendous pressure of nylon yarn without distortion.
2. **NYLON COMPRESSION RING** compensates for barrel contraction or expansion.
3. **ALUMINUM ALLOY FLANGE,** by unique drawn construction, eliminates yarn entrapment between barrel and head.
4. **NYLON RIM PROTECTS FLANGE,** resists wear of yarn drag. High impact resistance keeps edge nick-free.
5. **NYLON BEARINGS** absorb shocks, retain accurate fit, cannot freeze on spindle.

ACROPAK

Made by Acrometal Products, Inc., World's Leading Manufacturers of Drawn Aluminum Bobbins and Spools

A Division of

U S BOBBIN & SHUTTLE CO.

Lawrence, Mass.

Only ACROPAK Drawn Aluminum Alloy TAKE-UP and HEADLESS BOBBINS have these advanced features.

TAKE-UP BOBBIN: Drawn construction eliminates seam between barrel and flange • Bobbin takes heaviest pressures without distortion • Absolute concentricity assured by manufacture from special precision dies • Reduced weight eases handling • Unaffected by high steaming temperatures • ACROMETAL anodizing eliminates yarn stain.

HEADLESS BOBBIN: Amazing strength and durability through ACROMETAL tube and gudgeon with stainless steel collar • Much lower initial cost than for mandrel-cylinder assembly. One operation instead of five in take-apart means time saving up to 75%. Absolute concentricity assured by unique construction.

WIPE OUT STATIC

from Your Production Picture with NOPCO* 1656-R

the antistatic oil that assures better WORSTED production

Today, when speeded-up processes in worsted yarn manufacture tend to promote static, you'll find Nopco 1656-R an ideal trouble killer.

Fibers treated with this specifically formulated oil remain static-free throughout carding, gilling, combing and drawing operations.

You'll avoid "wild" and broken ends, produce even-running, quality yarn with this new, antistatic lubricant.

Nopco 1656-R also *eliminates* oxidation, and *reduces* soap costs 75%. In fact, this remarkable new oil enables the worsted manufacturer to obtain exceptionally good results—comparable to those achieved by users of famous Nopco FUA oil for processing wool.

Yes, Nopco 1656-R means HIGH QUALITY WORSTED YARNS PRODUCED ECONOMICALLY . . . and in these competitive days what is of more importance to you?

Ask your Nopco representative for full details, or write today for complete information.

NOPCO TRADEMARK EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY

Formerly National Oil Products Company

HARRISON, NEW JERSEY

Branches: Boston • Chicago • Cedartown, Ga. Richmond, Calif.

* Reg. U. S. Pat. Off.

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For competent aid in solving your packaging and shipping problems call a Gaylord Representative

Better Boxes Through Continuing Research and Quality Control.

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New Orleans, La. Raymond 8541
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Tampa, Fla. H-4801
Miami, Fla. 82-1904
Jacksonville, Fla. 7-5808
Atlanta, Ga. Main 1728
Jackson, Miss. 3-3101
Dallas, Texas Dixon 4-1733
Oklahoma City, Okla. 4-7013
Memphis, Tenn. 37-3456
Chattanooga, Tenn. 5-4412
Greenville, S. C. 5-3441
Sumter, S. C. 1280-L
Hickory, N. C. 1365-L
Greensboro, N. C. 3-1752
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Cincinnati, Ohio Cherry 1557
Indianapolis, Ind. Humboldt 4759
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Des Moines, Iowa 4-7757
Omaha, Neb. Kenwood 0998
Milwaukee, Wis. Hilltop 5-6010
Appleton, Wis. Appleton 4-3411
Minneapolis, Minn. Atlantic 4046
Chicago, Ill. Franklin 0190
Detroit, Mich. Melrose 3110
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General Offices: Saint Louis

Corrugated and Solid Fibre Boxes • Folding Cartons • Kraft Grocery Bags and Sacks • Kraft Paper and Specialties

NO MORE *TIPPY* WOOL

with

ANTHOMINE*

on the job!

IN ALL WOOL DYEING OPERATIONS *ANTHOMINE* INCREASES THE AFFINITY OF WOOL FIBRES FOR DYESTUFFS.

THIS RESULTS IN LEVEL SHADES WHEN DYEING STOCK, YARN OR PIECE GOODS.

TIPPY AND BLENDED WOOLS ARE DYED A SOLID SHADE BY ADDING *ANTHOMINE* TO THE DYE BATH.

Mills throughout the country use* ANTHOMINE *for:

- **Even dyeing**
- **Brighter, fuller shades**
- **Quicker, better exhaustion of dyebath**
- **Softer, more pleasing "hand"**
- **Reduced processing time**

Send for Technical Service Bulletin #203-100.2 for complete information, including how to use ANTHOMINE for Top and Yarn Dyeing, Pressure or Package Dyeing, Leveling Unevenly Dyed Yarn or Shady Pieces, Dyeing Metallized Colors, etc.

Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

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TEMPERED
TRADE MARK REG.

THE PLANT THAT MAKES—

Only One Specific Type of Product—

WORLD FAMOUS "QUALITY" SOUTHERN SHUTTLES

Perfection in design and construction must always be reached before a shuttle is trade-marked **"Southern"**. That's why—in two short decades—they have become recognized as the world's leading shuttle.

Modern in every concept, they are produced in an air-conditioned plant specifically built for the exclusive straight-line production of just one product—**the world's finest shuttle "Southern"**.

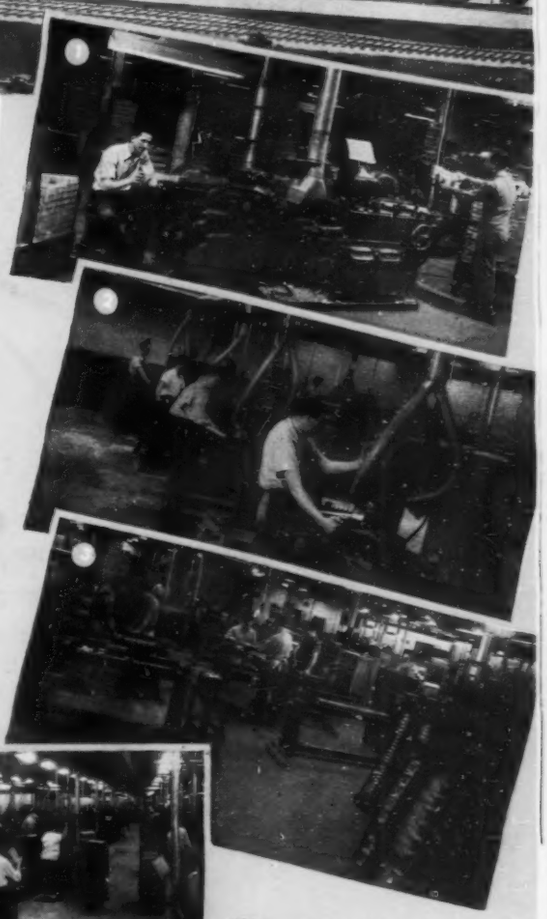
Each and every step of Southern Shuttle Manufacture, from selected dogwood to final inspection is scientifically controlled—with master craftsmen directing shuttle experts on each operation.

Pictured here is the home of Southern Shuttles, where dust is unknown, humidity constantly controlled. Interior views, display just a few of the many precision operations necessary in making world-famous Southern Shuttles. They illustrate the immensity of this one operation devoted to Southern Shuttle making, where dogwood is Tempered and characterized by grain structure and density.

After precision machining operations and tests, perfectly uniform **Southern Shuttles** step out to **"Weave the World's Needs"**.

Featuring Tempered Dogwood (plain and fibre covered) and a complete line of shuttle eyes for every loom requirement. Satisfactory performance is guaranteed.

Consult with us on the specialized better shuttle of tomorrow.



2-J-1

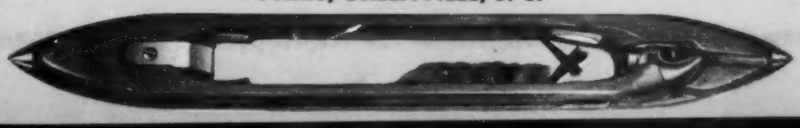
1. Billet flanked high speed moulding machines form perfect shuttle blanks.
2. Routers operating in battery formation profile cuts and intricate indentations.
3. Skilled craftsmen using secret formula and equipment in Bonding and Covering Dept.
4. Part of Automatic Shuttle Dept.—where precision machining is guided by expert hands.
5. A section of final Assembly—where perfect Shuttle bodies and precision machined fittings become complete units.
6. Interior Sectional View of part of the 100,000 sq. ft. of plant space.
7. One corner of the Eye Dept.—where patented scientific Southern Shuttle Eyes are made.
8. Tested continually throughout production—every shuttle must pass a final test and inspection.

SOUTHERN SHUTTLES

A DIVISION OF

STEEL HEDDLE MFG. CO.

PARIS, GREENVILLE, S. C.



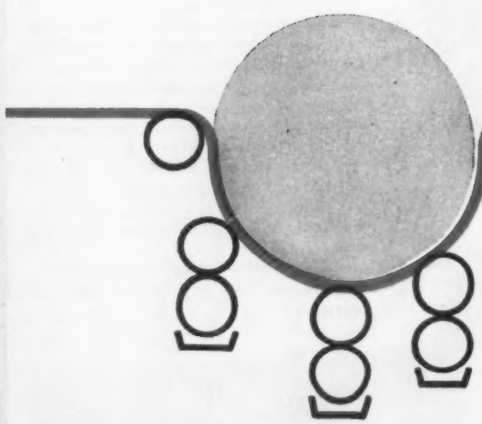
PROFIT-MINDED PRINTERS

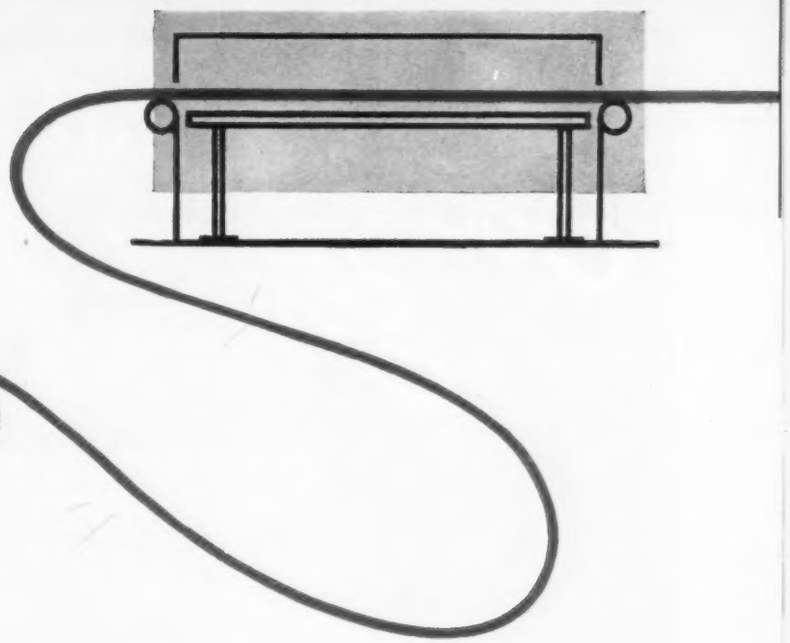
USE ARIDYE PIGMENT COLORS

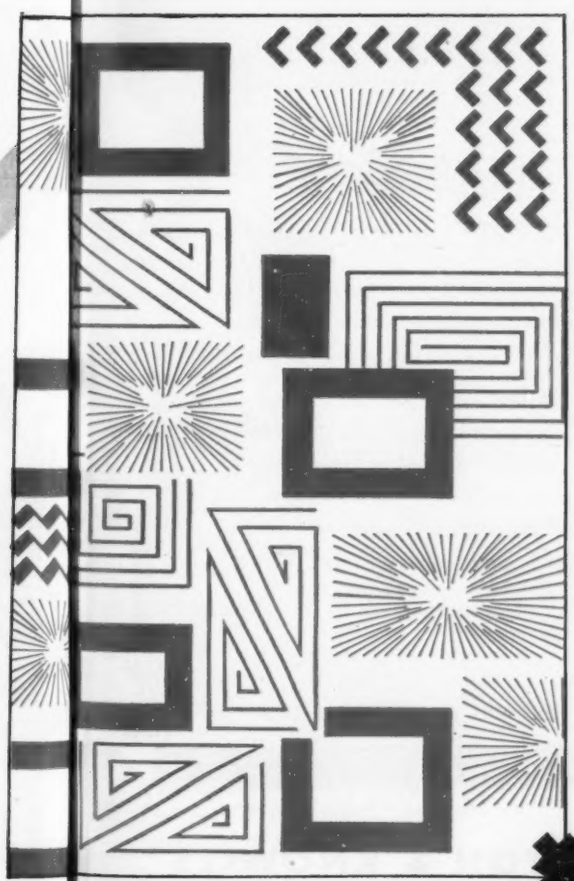
BECAUSE THEY ARE . . .

FINAL IN SHADE

. . . THE LAST WORD IN ECONOMY







Final in shade . . . a minimum of costly seconds . . . that's why Aridye® Pigment Colors are the choice of printers who count their production pennies!

When shades are final as the fabric leaves the roller, printing defects can be detected and corrected immediately . . . yardage and money are saved. In addition, Aridye Pigment Colors eliminate 3 after treatment operations, thus saving time, steam, water, chemicals, and labor. They also effect savings in time and expense through quicker pitching or fitting of patterns.

An Interchem Technical Representative will be glad to discuss with you the many ways in which *you* can benefit from the use of Aridye Pigment Colors. Phone or write Interchemical Corporation, Textile Colors Division, P. O. Box 357, Fair Lawn, N. J.

INTERCHEMICAL CORPORATION
Textile Colors Division
FAIR LAWN, N. J. • ROCK HILL, S. C.
PAWTUCKET, R. I.

Aridye *Pigment colors*

See all that you get in.. C&K C-LOOMS

Looms equipped with dobbies, head motions or cams... and with C&K Jacquards, whatever your needs require

3-way convertibility . . . with tricolor feature

52 widths, from 33" to 120" between swords

4 types of harness motions

4 types of let-offs

4 types of take-ups

3 types of feeler mechanisms

8 different shuttle sizes, for 7⅞" to 10⅝" bobbins . . . with wound diameter up to 1⅝"

Unmatched range of fabrics and specialties . . . cotton, spun rayon and blends . . . for handkerchiefs, dress goods, suitings, shirtings, marquisettes, terrys, hucks, upholsteries, blankets, draperies, just to mention a few.

The endless versatility of C&K C-Looms . . . equipped with dobbies, head motions, cams and jacquards . . . is the most powerful *mobile defense* any mill can have against the quick-shifting trends of today's nervous markets. See exactly what modern C-Looms can do to weave new profits in your weave rooms. Write.

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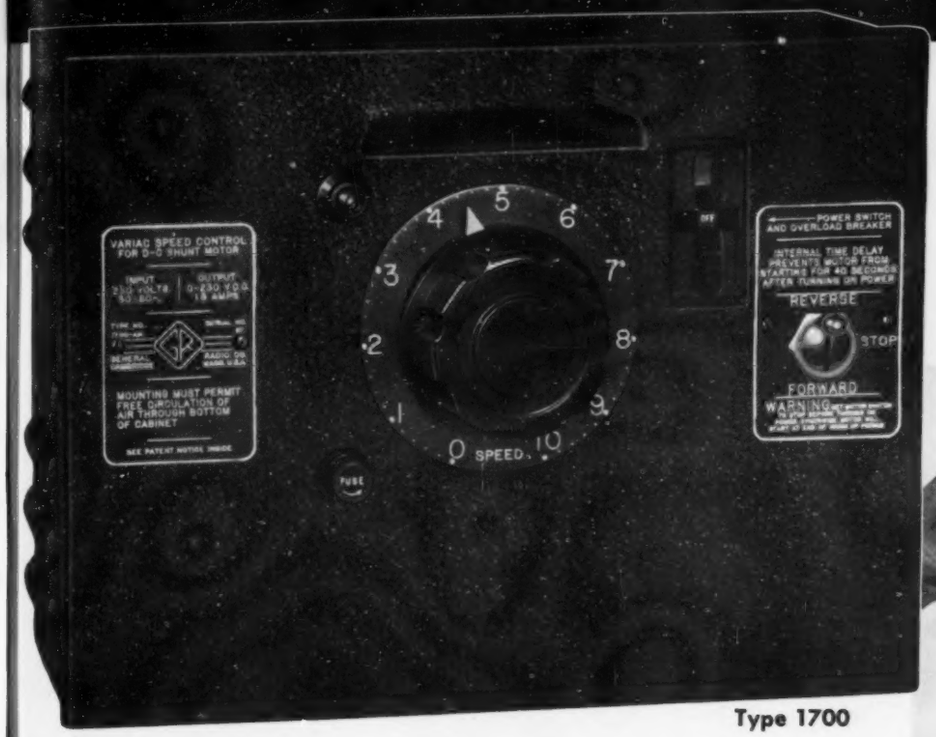
This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

NEW Motor Speed Controls for D-C Motors from A-C Lines


VARIAC SPEED CONTROL FOR D-C SHUNT MOTOR
MOUNTING MUST PERMIT FREE CIRCULATION OF AIR THROUGH BOTTOM OF CABINET
POWER SWITCH AND OVERLOAD BREAKER
INTERNAL TIME DELAY PREVENTS MOTOR FROM STARTING FOR 40 SECONDS AFTER TURNING ON POWER
REVERSE
STOP
FORWARD
WARNING
SPEED
FUSE

Type 1700

Type 1701

These New General Radio *VARIAC** *Speed Controls Feature*

- Operation of 1/3 and 1/4 h.p. d-c shunt or compound, 1/20 h.p. d-c shunt and 1/20 h.p. universal motors, from A-C LINES
- Continuously-variable Speed Ranges of Over 15 to 1
- Extremely fast Starting — Large Overload Capacity
- Fast Stopping — Dynamic Braking (on 1/3 and 1/4 h.p. units)
- Extremely Fast Reversing
- Good Speed Regulation
- Smooth Operation — Less Torque Pulsation
- Straightforward Circuit
- All Controls and Circuits in One Small, Easily Mounted Box
- For Use with STANDARD D-C Motors, No Derating Necessary

*Trade Name VARIAC is Registered at the U. S. Patent Office

Variac Speed Controls

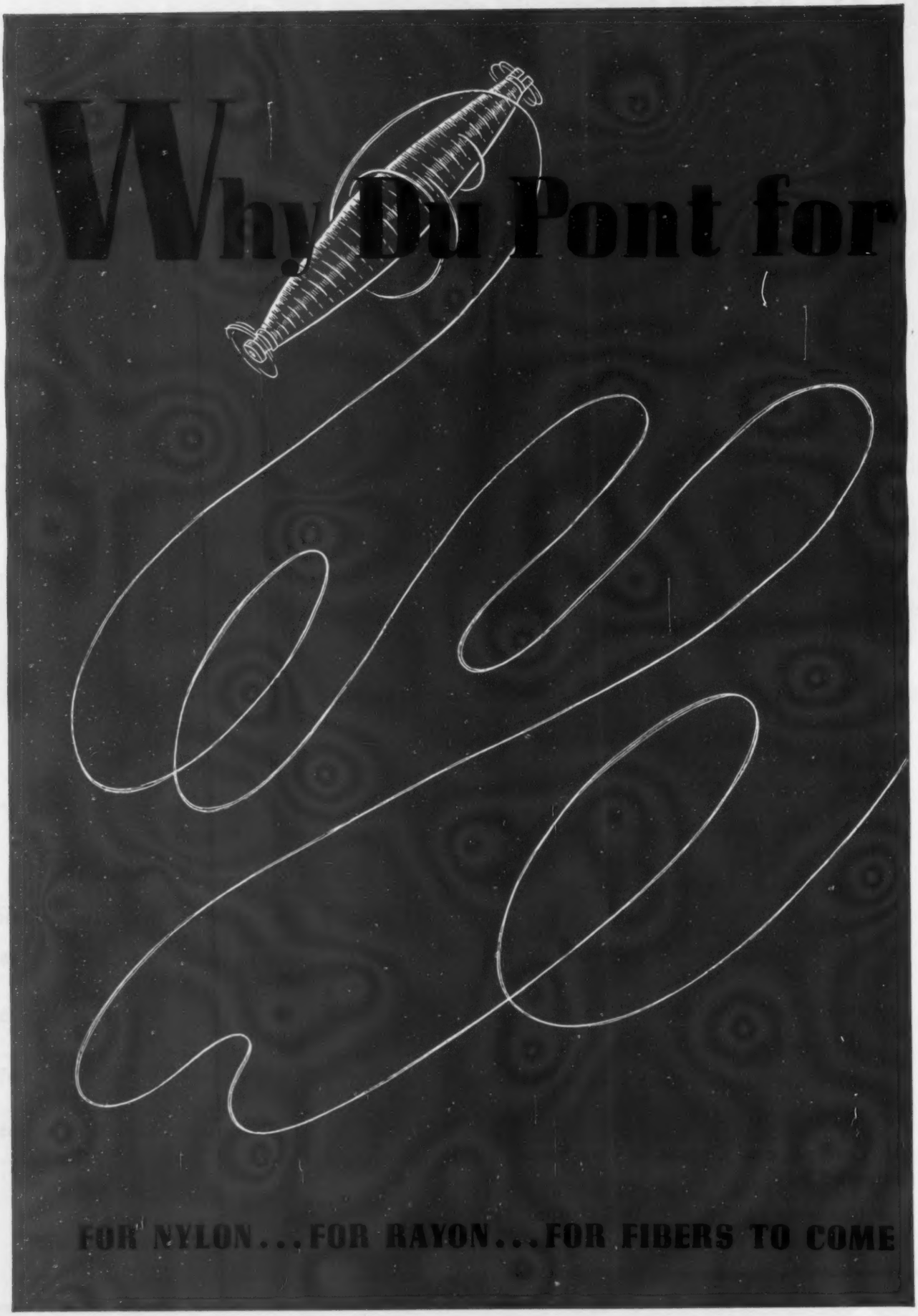
TYPE	FOR USE WITH D-C MOTOR OF	A-C LINE	PRICE
1700-AL	1/3 or 1/4 h.p. shunt or compound wound	105-125 volts (50-60 cycles)	$175.00
1700-AH	ditto	210-250 volts (50-60 cycles)	175.00
1701-AK	1/20 h.p. shunt wound	105-125 volts (60 cycles)	65.00
1701-AU	1/20 h.p. Universal	105-125 volts (60 cycles)	65.00

For complete data write for:
VARIAC MOTOR CONTROL BULLETIN

GENERAL RADIO COMPANY

Cambridge 39, Massachusetts

90 West St., New York 6 920 S. Michigan Ave., Chicago 5 1000 N. Seward St., Los Angeles 38


Why Du Pont for
FOR NYLON . . . FOR RAYON . . . FOR FIBERS TO COME

Textile Fibers?

Fibers THAT GET AROUND

Du Pont chemists are experts in finding the fiber to fit the need. Some fibers shrink less, some resist abrasion, others cross-dye better. Whatever your fabric problem is, it's a help to remember that Du Pont research has probably "been there before"—and has come up with the answer.

When high strength matters, look into Cordura* high tenacity rayon—it's a toughy—tough enough for heavy-duty use in tires for tractors, trucks, and airplanes, tough enough for parachute shroud lines, air pressure hose. And tough enough in its finer counts to give great strength and long wear to even the sheerest of fabrics.

*REG. U. S. PAT. OFF.

ACETATE DIVISION • NYLON DIVISION • RAYON DIVISION
Rayon Department
E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

. . . LOOK TO DU PONT

TUFFER Men Give You Practical Help

Practical help by TUFFER men has long been a policy of Howard Bros. Constantly we receive letters from customers expressing appreciation of the "over and above" service given by TUFFER men. They are qualified by specialized training and experience to give workable suggestions and recommendations.

FROM RECENT LETTERS: →

Talk over your carding problems with a Howard Bros. representative. Write today to our nearest plant or office.

"... right off the bat you gave me an idea I had never heard of, one I can now appreciate from a practical angle. You know how to make good the claim in your advertising that your representatives are 'practical' men in time of need."

"Your representative told us things we had never heard of, much less thought about, which gave us immediate improvement in our production and quality."

"I'm not buying anything but Howard Bros. Tuffer Card Clothing, and that goes as long as they give the same quality and service."

HOWARD BROS. MFG. CO.
WORCESTER 8, MASSACHUSETTS

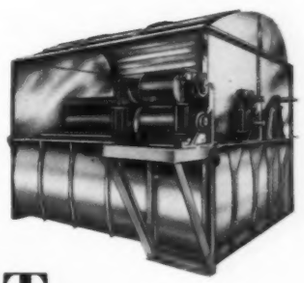
Southern Plants: Atlanta, Ga. and Gastonia, N. C. **Branches:** Philadelphia, Pa. and Blanco, Texas
Direct Representation in Canada A-3

TUFFER CARD CLOTHING **IMPROVES PRODUCTION ALL ALONG THE LINE**

One of a series painted for Rodney Hunt by Ben Stephenson

FAMOUS FINISHES . . . *Sailing just under a nine-knot average for the entire course, the "Highland Light" set a record in the 1932 Bermuda Race by covering the 625 sea miles from Montauk to St. David's Head in less than three days. She sailed so fast that she arrived at the finish before the tug had established the line.*

THERE'S a "famous finish" in Ware Shoals, S. C., that we'd like to mention. It's the finish on cottons and rayons by Riegal Textile Corporation's Ware Shoals Division. Like many another "famous finish" in textiles, you'll find that Rodney Hunt finishing equipment is playing a key role. At Ware Shoals, Rodney Hunt Soaping Ranges are giving record production at record low costs. If you have a finishing problem — big or little — put it up to Rodney Hunt finishing engineers. Please turn the page for more specific information on "Finishing for Profit."



RODNEY HUNT

RODNEY HUNT

Established 1840

ORANGE 10, MASSACHUSETTS, U. S. A.

"Tensitrol," "Tru-Shade," "Slack Loop," "Wring-Master," and "Curve-of-Strength" are registered trade marks identifying textile finishing machinery manufactured exclusively by Rodney Hunt Machine Co.

Finishing For Profit

RODNEY HUNT

Established 1840

RODNEY HUNT MACHINE CO.

ORANGE 10, MASSACHUSETTS, U.S.A.

Unique Test Run on Rodney Hunt "Tensitrol" Open Width Washer

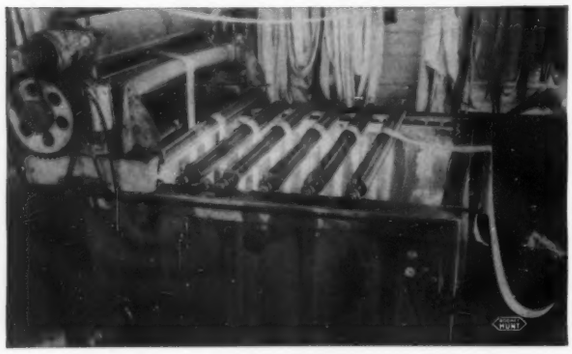


Fig. 1

Place: Laboratory of Rodney Hunt Machine Co.

Test: To determine tensionless qualities of "Tensitrol" Washer.

Equipment: One standard stock "Tensitrol" Open Width Washer. One roll of toilet tissue.

Procedure: Standard Open Width Washer threaded with toilet tissue in conventional manner that is used on all types of fabric. (See Fig. 1)

TESTS	RESULTS
1. "Tensitrol" Open Width Washer run at 120 yards per minute.	1. No breakage occurred in the tissue when run at this high speed.
2. Delivery rolls opened so that tissue remained stationary even though machine was running at 120 yards per minute. Delivery rolls brought together to start tissue through machine.	2. No breakage occurred in tissue when delivery rolls were brought in contact violently starting tissue through machine at 120 yards per minute.
3. Rod inserted under pass of tissue through machine and raised 12" to simulate shrinkage in actual machine. (See Fig. 2)	3. No breakage occurred and all passes through machine remained relaxed.

Conclusions:

Test No. 1 — The tissue was completely relaxed and tensionless because no perforations on the toilet tissue were broken during the running of this test.

Test No. 2 — The violent action of starting the tissue through the machine at 120 yards per minute did not break perforations in the tissue. This was further proof over Test No. 1 that the cloth was absolutely tensionless.

Test No. 3 — That, regardless of amount of stretch or shrinkage, any fabric would remain tensionless in the "Tensitrol" Washer.

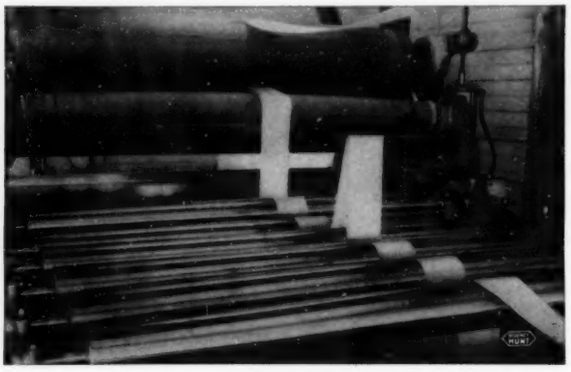


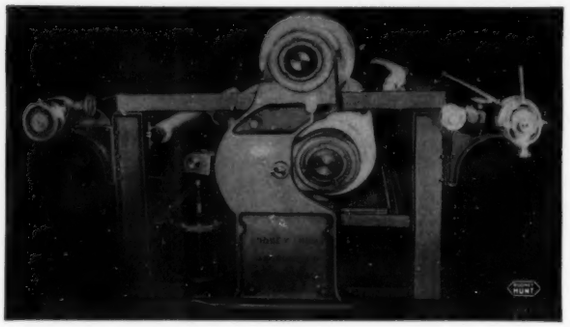
Fig. 2

SUBSEQUENT tests with all kinds of cloth and under all types of conditions plus what is most important, many months of hard usage in some of the largest textile plants in the country, have demonstrated the "Tensitrol" principle to be one of the really great advances in the textile finishing industry.

The large number of immersions given the fabrics, plus the high washing efficiency maintained because the fabric is relaxed, reduces water consumption. Lack of tension means lower horsepower requirements.

★ ★ ★

Rodney Hunt Padders Set New Standards



Do you use a Padder for — rayons, cottons, woolens, laces, nylon, or a combination of any of these?

These are your problems:

What pressures should I use?
What types of rolls should I use?
What density of rubber should the rolls be?
How much immersion do I need?
What speeds should I run?

These are your individual problems and yours alone. Your requirements are different from those of anyone else.

Rodney Hunt engineers are specialists trained to meet your individual requirements. They have studied the application of perfected controls for pressure, made long exhaustive studies of roll constructions, density of rubber. They have met and coped with all of the problems that confront you as a finisher.

If you have a problem — tell Rodney Hunt!

★ ★ ★

If further information is desired on the above subjects, please address your inquiries to the Rodney Hunt Machine Co., Orange 10, Massachusetts, U.S.A.

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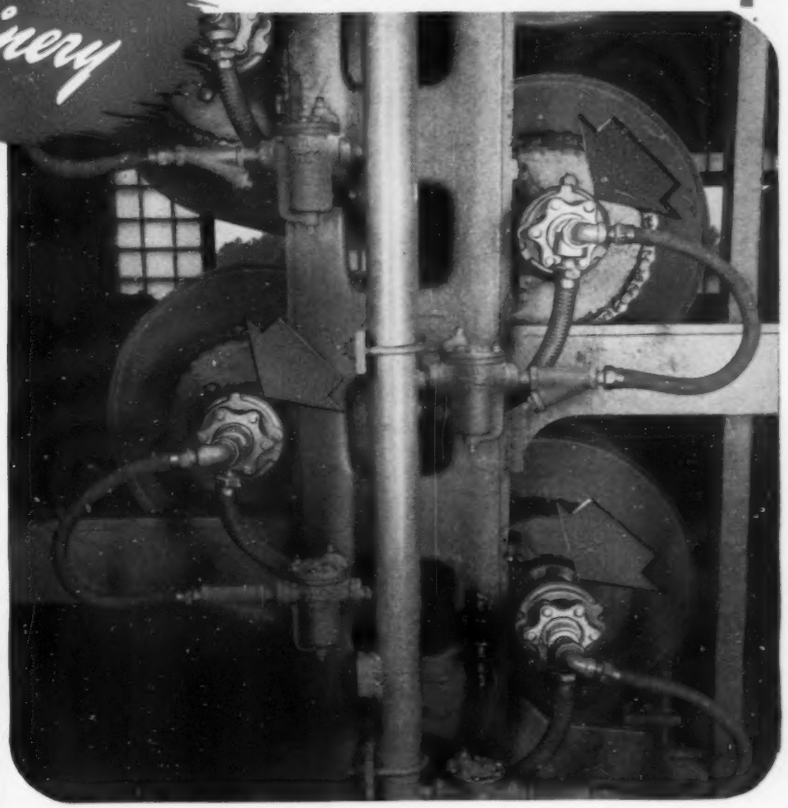
the final touch to fine machinery

JOHNSON JOINTS on Butterworth Dry Cans

Butterworth chain-driven dry cans, with Johnson Joints offered as standard equipment. This type of joint mounting permits flexible hose for steam and condensate connections, to eliminate any pipe strains.



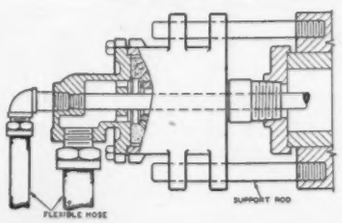
Everyone in the industry recognizes that Butterworth has long helped to set the pace in textile machinery.

And Butterworth has long recognized that Johnson Joints set an entirely new pace . . . that they help bring out the full measure of efficiency and dependability designed into the finest machinery. That's why you'll find Johnson Joints now, as for many years, offered as standard equipment on the Butterworth Dry Cans pictured here.

Johnson Rotary Pressure Joints were designed to take over where the ordinary stuffing boxes fall short. They knock for a loop all the troubles and up-keep expenses; reduce time-out for repairs; promote more efficient roll drainage; boost over-all efficiency as nothing else can.

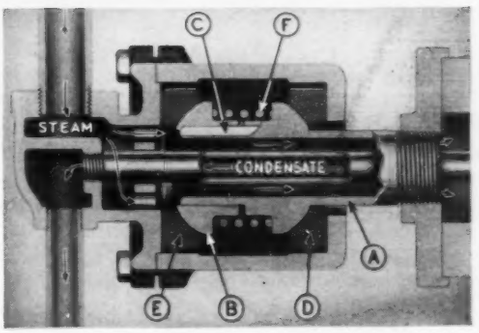
If you haven't installed Johnson Joints in your mill, take a tip from Butterworth, and all the other machinery manufacturers who agree almost unanimously on this point. Give your slashers, dry cans and sanforizers this finishing touch and you're money ahead, with all stuffing box troubles behind you.

Write for new literature



Types, Sizes for all Needs

Drawing shows Type L Johnson Joint, which has lugs cast on body to provide simple rod support. The complete range of types and sizes cover all service conditions, every installation requirement.



JOHNSON ROTARY PRESSURE JOINT

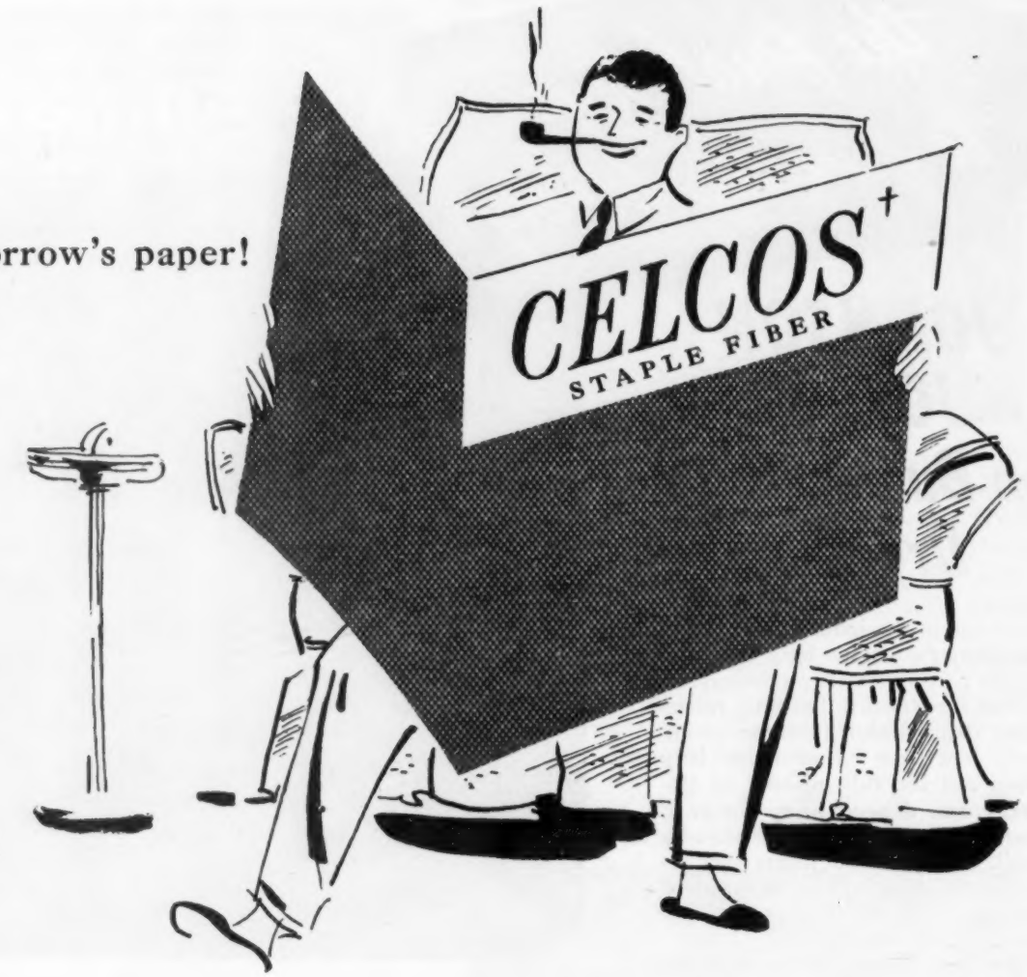
Nipple (A) is connected to roll or drum. Sliding collar (B) is keyed to nipple at (C), but slides over it loosely so pressure can fill entire housing. This pressure becomes the sealing force, presses seal ring (D) tightly against nipple. Both seal ring and bearing (E) are of special carbon graphite which eliminates oiling and packing. Spring (F) is for initial seating only.

Product of The Johnson Corporation

815 Wood St., Three Rivers, Michigan

ROTARY PRESSURE JOINTS • COMPRESSED AIR SEPARATORS AND AFTERCOOLERS
DIRECT OPERATED SOLENOID VALVES • "INSTANT" STEAM WATER HEATERS

new as tomorrow's paper!



Many highly desirable features of both acetate and viscose rayons are now available in *one fiber!*

Combines in one fiber—fullness of hand, unusual resilience and the ability to cross-dye with either acetate or viscose.

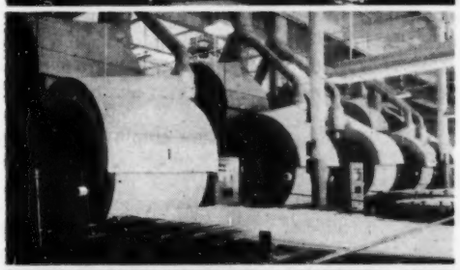
Let Celanese help you to develop new markets through new fabrics—fabrics containing CELCOS, the first new member of the rayon family in 20 years.

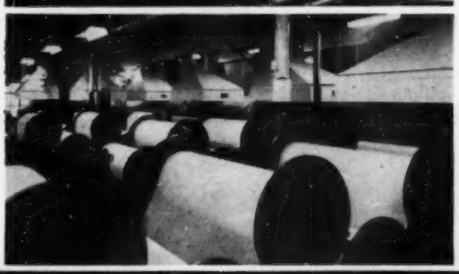
CELCOS is available only in staple fiber form. It may be spun 100% or blended with other fibers.

Celanese Corporation of America, 180 Madison Ave., New York 16.

Celanese* STAPLE FIBER OF ACETATE RAYON

*Reg. U. S. Pat. Off.
†Trademark





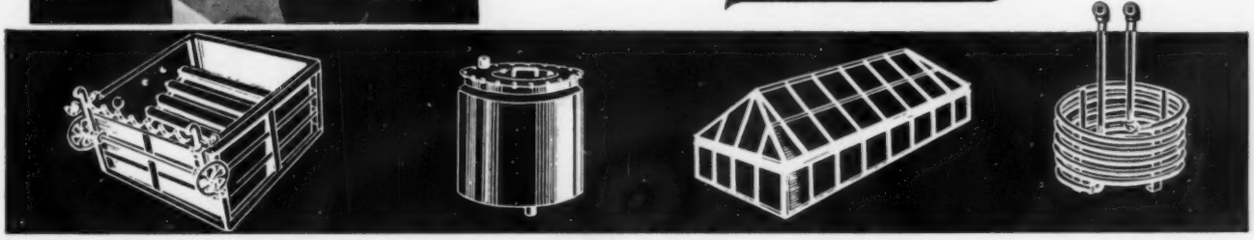
IT'S DOLLARS & CENTS to YOU!

It's *your* money—going up in vapor! In corrosion and condensation. In drip damage to stored goods and goods in process. In "down" time for cleaning and replacing equipment. In lowered employee efficiency.

A *fully automatic* vapor absorption system by Sims will pay for itself many times over in eliminating or reducing these losses. Compare the unretouched photographs at left with the vapor-filled picture above. These vapor-cleared slasher rooms tell a graphic story—the result of a Sims-built vapor absorption system. Already installed in many mills, these fully automatic systems render quiet, efficient and complete service—with a minimum of maintenance.

Each installation is engineered by Sims craftsmen to fit local conditions. Write or wire Sims TODAY—a competent field engineer will show you how to reduce costs materially.

FABRICATORS SINCE 1928 — **Sims METAL WORKS** — WEST POINT GEORGIA



1 plan helps prevent all 3

When you show the people in your company that you're interested in their welfare, they naturally react favorably. That's why *production goes up* when you boost your employee-participation in the Payroll Savings Plan. Here's how it happens:

The more U. S. Savings Bonds an employee holds, the more secure he feels. The more secure he feels, the greater his peace of mind—the more contented, careful, and productive he is on the job.

Those facts aren't just something we dreamed up. They're borne out in the experience of more than 20,000 companies promoting the Plan.

Everybody Benefits!

Bond sales spread the national debt, thus increasing our national economic security. And, of course, what's good for the nation is good for you and your business!

The individual Bond buyer gets back $4, when his Bonds mature, for every $3 he invested. That's a boon for him, and —multiplied by millions of Bond holders —represents a huge backlog of purchasing power that will help assure national prosperity through the years ahead.

Five Steps Boost Participation

1. See that a top management man sponsors the Plan.

2. Secure the help of the employee organizations in promoting it.

3. Adequately use posters and leaflets and run stories and editorials in company publications to inform employees of the Payroll Savings Plan's benefits to them.

4. Make a person-to person canvass, once a year, to sign up participants.

These first four steps should win you 40-60% participation. Normal employee turnover necessitates one more step:

5. Urge each new employee, at the time he is hired, to sign up.

Nation-wide experience indicates that 50% of your employees can be persuaded to join—without high-pressure selling. All the help you need is available from your State Director, U. S. Treasury Department, Savings Bonds Division. He is listed in your telephone directory. Wouldn't it be a good idea to call him right now, while it's on your mind?

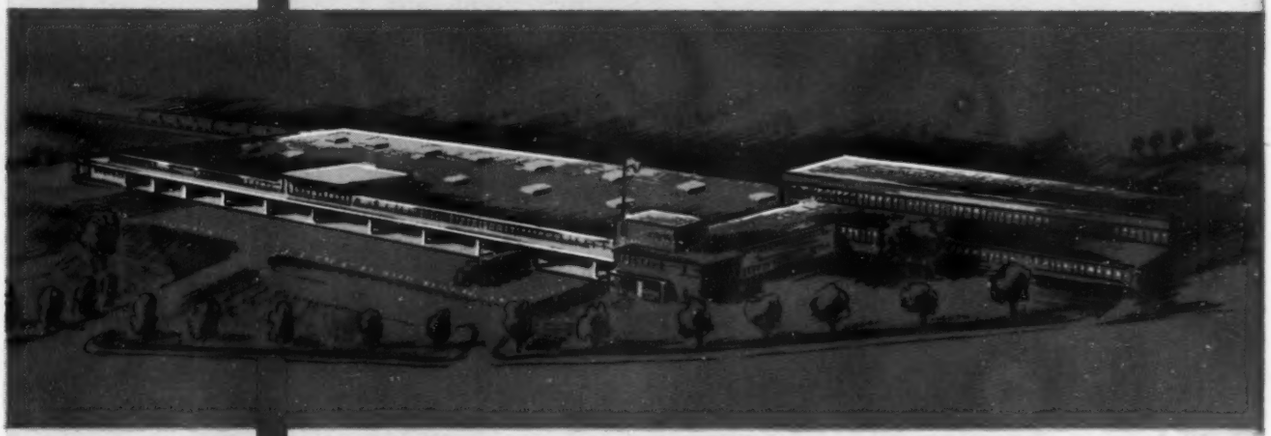
The Treasury Department acknowledges with appreciation the publication of this message by

TEXTILE INDUSTRIES

This is an official U. S. Treasury advertisement prepared under the auspices of the Treasury Department and The Advertising Council.

Since 1868 – The First Name in Packaging

NOW - THE SOUTH'S LARGEST AND FINEST CORRUGATED AND FOLDING BOX PLANT



ATLANTA PAPER COMPANY'S NEW PLANT HAS BEEN BUILT TO PRODUCE PACKAGING MATERIALS UNDER THE MOST FAVORABLE MANUFACTURING CONDITIONS.

BY GIVING OURSELVES A PHYSICAL PLANT DESIGNED FOR MAXIMUM QUALITY & QUANTITY, WE ARE ABLE TO GIVE OUR CUSTOMERS IMPROVED QUALITY, SERVICE, & ECONOMY.

APACO ESTABLISHED 1868

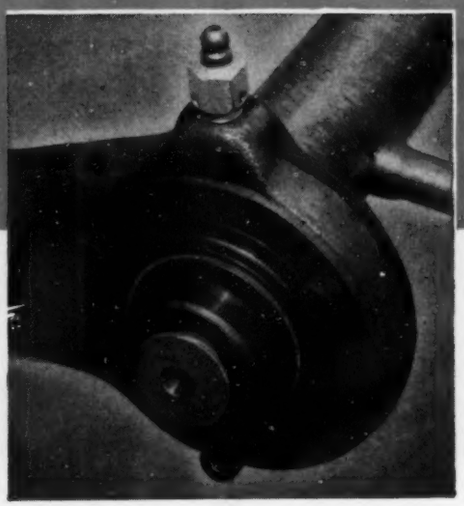
CORRUGATED SHIPPING CASES • BELSINGER CORRUGATED TEXTILE CASES • DISPLAY FOLDING CARTONS • PRINTED PAPERS & CONE WRAPS • GLASSINE SPECIALTY BAGS • KRAFT & WATERPROOF PAPER • GUMMED TAPES • TEXTILE SPECIALTIES

ATLANTA PAPER COMPANY

ATLANTA 2, GEORGIA

Smoother OPERATION!

Ball Bearing Off End Stand



Ball Bearing Comb Box

Here's the companion piece to Southern States' Ball Bearing Comb Box . . . the Ball Bearing Off-End Stand! This new Stand is designed to provide smoother and completely leak-proof operation of your Comb Stocks. It is available for all current makes of cotton cards.

A completely sealed bearing unit, this new stand—when used in combination with the Southern States Ball Bearing Comb Box—eliminates the possibility of oil damage at the front of the card. While adjustments can be made at the Comb Box, the new Ball Bearing Stand will correct **minor** misalignment of the Comb Stock.

Southern States makes available to you **now** either separate unit or combination replacements of your old, worn-out comb boxes, comb stocks, and off-end stands. Purchase them individually or take advantage of complete replacement by ordering the three units at one time. Specify make of cotton card when ordering.

Replace old sleeve-type bearings with the new Southern States Ball Bearing Off-End Stand. Adaptable to **any current make of cotton card,** this efficient unit is completely **sealed,** requiring a minimum of attention. Simply and quickly installed, it is available for either right—or left—hand mounting and can be reversed **right in your cardroom!** You can insure more accurate comb setting—retain this accuracy for the life of the bearing.

Southern States Equipment Corp.

HAMPTON GEORGIA

REPRESENTATIVES — MECHANICAL DIVISION

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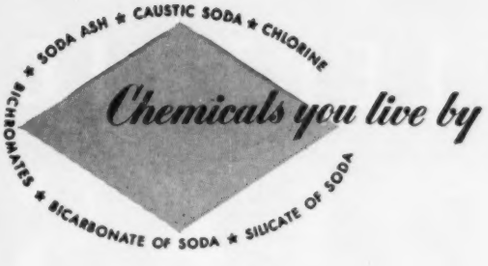
Textile Parts & Machine Co., Gastonia, N. C.

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South



NEW TWISTS ON AN OLD TALE

The handling and storing of chemicals is to you an old tale. As it is to us.

However, DIAMOND ALKALI continuously studies the problem of unloading, handling and storing. From time to time, it develops improved methods. Often special means are devised for solving individual problems which arise out of local conditions.

Your DIAMOND salesman is posted on these new angles. It isn't something he would bring into the conversation just cold. But if you will ask him, you will find he knows a lot about chemicals beyond the mere selling of them. Next time you have a problem, please feel free to put your DIAMOND salesman's broad knowledge and the facilities of DIAMOND's Technical Service staff to work for you.

DIAMOND ALKALI COMPANY • CLEVELAND 14, OHIO

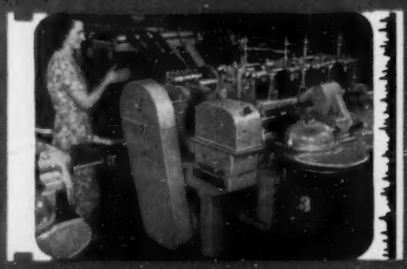
DIAMOND ALKALI CHEMICALS

GENERAL ELECTRIC

"TEXTILES

Dramatically– it presents the latest facts on these vital topics!

Mill Modernization
. . . lighting, air conditioning, better acoustics, better use of color, etc.



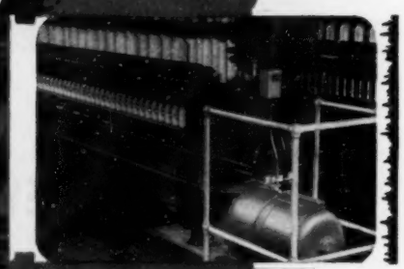
Finer Quality Control
. . . how it is being obtained in leading mills of every type.

Power at the Point of Use
. . . individual electric drives for a wide range of machines.

it's authentic!

Filmed under actual operating conditions in mills like yours!

Materials Handling
. . . and the ways in which it can cut your manufacturing costs.



Higher Controlled Speeds
. . . as a way to increase the productivity of your machines.

Modern Power Distribution
. . . and the part it plays in cutting over-all production costs.

Continuous Processing
. . . two machines or twenty in one efficient, cost-cutting range.

New Processing Methods
. . . and their importance in opening new textile markets.

ANNOUNCES

UNLIMITED"

A new, full-color sound movie on

Textile Mill Modernization

PACKED WITH QUALITY-IMPROVING, COST-CUTTING IDEAS!

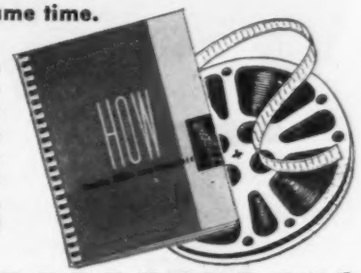
With material and labor costs up and competition tougher, you don't want to miss a single opportunity to cut your manufacturing costs and improve the quality of your product. That's why we know you'll want to see "Textiles Unlimited," General Electric's new full-color sound movie on how textile mills are modernizing.

Practically every phase of modernization is covered in this dramatic, yet highly factual presentation. Lighting, air conditioning, power distribution, machine drives, quality control—these are only a few of the pertinent subjects treated. What's more, the ideas shown *in action* are practical—this film was made in mills located in every important textile area.

Don't delay! Arrange now to see this film. Mail the coupon—we'll do the rest. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

Here's how you can arrange to see this movie *and* get a FREE MODERNIZATION MANUAL at the same time.

Mail the coupon below to let us know you would like to see "Textiles Unlimited." We'll also send you a FREE copy of "How Textile Mills Are Modernizing," a 100-page illustrated reference manual for textile mill modernization. (Additional copies at cost—$1.25)



General Electric Co.
Section G654-8, Apparatus Dept.
Schenectady 5, N. Y.

Yes—I'd like to see your new modernization movie "Textiles Unlimited." Also, please send me a FREE copy of "How Textile Mills Are Modernizing" (Bulletin GEA-4998).

Name .....

Position .....

Company .....

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More Power to America

GENERAL ELECTRIC

POWELL makes a *Complete* Line of Valves for the Process Industries

Fig. 2453-G—Large 150-pound Stainless Steel Gate Valve with bolted flanged yoke bonnet, outside screw rising stem and tapered solid wedge.

For more than twenty-five years Powell has been specializing in valves for the Process Industries. Whenever a new process has been installed, Powell has been ready with the right valves to meet all of its requirements.

Today the Powell Line for the Process Industries is so *complete** that there are Powell Valves specifically designed to meet the requirements of each and every flow control service in *your* industry. And if you install the *right* valves to meet individual service conditions, you can be assured of maximum performance. *To be sure* you have the right valves, consult Powell Engineers.

THESE ARE A FEW OF THE MANY POWELL VALVES YOU WILL SEE AT OUR

BOOTH 54

22nd Exposition of Chemical Industries
Grand Central Palace, New York City
November 28 to December 3

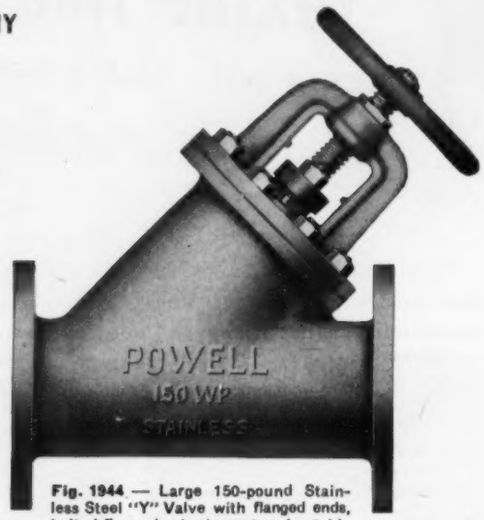


Fig. 1944 — Large 150-pound Stainless Steel "Y" Valve with flanged ends, bolted flanged yoke-bonnet and outside screw rising stem.

Fig. 1832—200-pound Stainless Steel Gate Valve with screwed ends, screwed-in bonnet and inside screw rising stem.

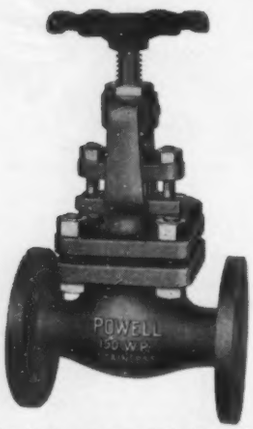


Fig. 1969—150-pound Stainless Steel Gate Valve with flanged ends, outside screw rising stem, bolted flanged yoke-bonnet and tapered solid wedge.

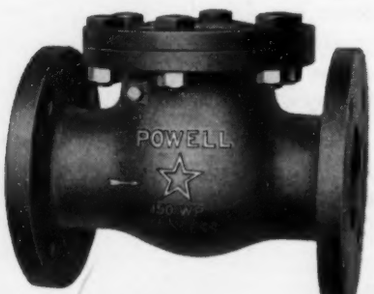
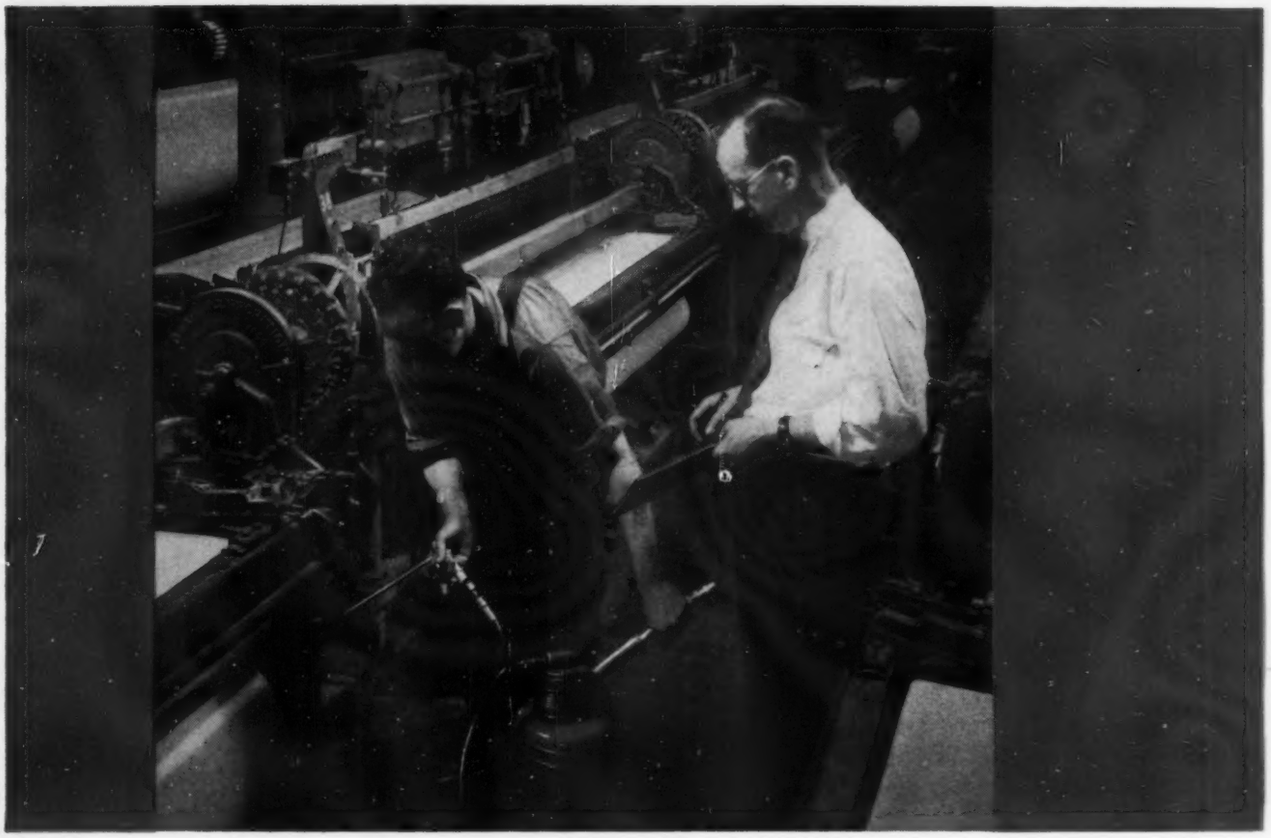


Fig. 2433—150-pound Stainless Steel Swing Check Valve with flanged ends and bolted flanged cap.

***The Complete Powell Line includes Globe, Angle, Gate, Check, Relief and Flush Bottom Tank Valves in Bronze, Iron, Steel and a wide range of Corrosion-Resisting metals and alloys.**

The Wm. Powell Company
Cincinnati 22, Ohio
DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

POWELL VALVES



lower maintenance expense in the weave room

when the **GULF LUBRICATION ENGINEER**

is "in the picture"

For lower maintenance and power costs in the weave room—in every mill room—enlist the cooperative services of a Gulf Lubrication Engineer.

With a background of thorough training and broad practical experience, he can be of real assistance to you in improving your lubrication practice.

He will recommend the lubricants and application methods exactly suited to your equipment and operating conditions. Then, periodically, he will check the performance of each machine and suggest any changes in lubrication practice that are necessary to provide for new conditions.

This kind of lubrication service has a real dollar and cents value to you. Write, wire, or phone your nearest Gulf office today and ask the Gulf Lubrication Engineer to call.

Gulf Oil Corporation · Gulf Refining Company

Division Sales Offices:

Boston · New York · Philadelphia · Pittsburgh · Atlanta
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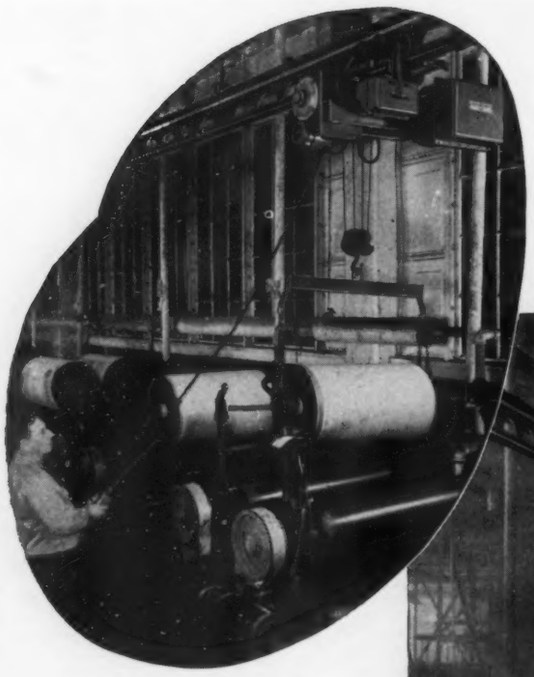
Gulf makes available top quality passenger and truck tires — ask your Gulf representative

GULF INDUSTRIAL LUBRICATION



Handles Rolls into DYEING JIGS IN ¼ NORMAL TIME

Makes Hard Dangerous Job Easy, Fast, Safe and . . . Pays for Itself in Less Than One Year

23 dyeing jigs in operation 24 hours a day served by Cleveland Tramrail system. The motor-driven carrier with electric hoist picks up the rolls in storage, delivers them to the jigs and sets them in place.

A Cleveland Tramrail installation in the Jig Dyeing Department of a large mill has reduced a hard job fraught with danger to a simple, easy, safe task, and has cut the man-hours for conveying and lifting rolls in and out of the jigs to one-quarter of that formerly required. The installation has fully paid for itself in less than one year.

Rolls of cloth are taken directly from the storage section to the Dyeing Department without rehandling. A transfer bridge gives complete coverage of the roll storage and interlocks with the two tracks serving the dyeing jigs.

Thus one man can handle rolls from storage to jigs without assistance and the former danger of hernias, mashed fingers, toes, and more severe injuries is eliminated.

GET THIS BOOK!

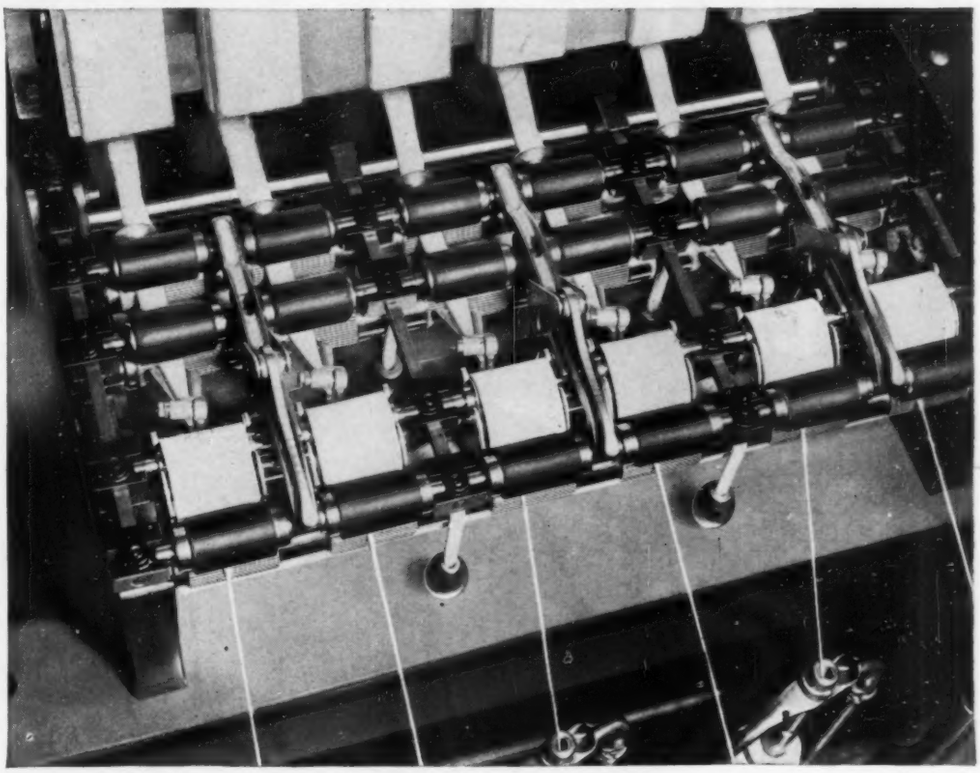
BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
2863 E. 287TH ST., WICKLIFFE, OHIO

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

If you spin your own yarn

You need . . .



WHITIN Single-Process Super-Draft ROVING FRAMES *because...*

Super-Draft is the only single-process roving frame that will satisfactorily control mixed fibres of different types and varying lengths. Uniform distribution of various fibres throughout the strand, accomplished through special aprons, special guide plates and special trumpets, results in even rovings and yarn and high quality fabrics. Staples of varying lengths including rayon, cotton and wool or any blend of these fibres can all be satisfactorily handled. Besides its versatility and product excellence, the Whitin single-process, Super-Draft roving frame offers your mill definite advantages from a cost standpoint: reduction in number of processes and floor space requirements... elimination of unnecessary machines . . . fewer spindles . . . economy in yarn costs and improvements in yarn quality. It will pay you to investigate.

Write today for complete information on Whitin Super-Draft and Inter-Draft Roving Frames.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N. C. • ATLANTA, GA.

Heart of a Sweet-

ALLIS-CHALMERS TEXTILE MOTORS

Other Money-Saving A-C Products for Textile Mills

TEXROPE V-BELT DRIVES

Most complete line of V-belt drive equipment backed by greatest engineering experience in the industry. New Vari-Pitch Automatic Sheave changes speed when motor is moved. One hand makes all changes without stopping machine. 100% speed range. 1½ to 40 hp.

DIELECTRIC HEATER FOR FAST DRYING

Allis-Chalmers dielectric heaters are setting new standards of speed and quality in rayon cake drying and twist setting. Heat any size or shape of textile package evenly from core to surface. Dries 1 pound cake of rayon in 30 minutes. Engineering and cost studies made without obligation.

Running Loom

Built to beat today's high maintenance costs... made to give you top output from both new and modernized equipment. Check these advantages:

☛ REDUCED BEARING MAINTENANCE
Factory lubricated and sealed ball bearings get just the right amount of the right grease. Run without attention for years. No cost for lubricant and lubrication over long periods of operation.

☛ SMOOTH RUNNING UNDER PULSATING LOAD
Motor is smooth running under constantly shifting loads of loom operation. Extra stiff cast iron frame resists distortion under strain and keeps bearings in perfect alignment.

☛ EXTRA OVERLOAD CAPACITY FOR BREAKING-IN
Allis-Chalmers Loom Motors have the extra power needed for efficient operation during the stiff break-in period. You get full production immediately from looms equipped with Allis-Chalmers Loom Motors.

For Modernization or New Looms

When modernizing to increase production and to lower cost . . . or when buying new looms . . . specify Allis-Chalmers Loom Motors for that smooth "sweet running" sound that means efficiency and higher profits. In sizes and speeds to meet your requirements.

Quick-Clean Textile Motors

Especially designed for general textile mill use, these Allis-Chalmers motors have wide open air passages, smooth internal surfaces and efficient fans that blow out lint and dirt. They will not clog and overheat. Sealed bearings protect surroundings from grease, require no attention for years. Sizes to suit the usual requirements of spinning frames, twisters, etc.

A-2830

Texrope, Quick-Clean, and *Vari-Pitch* are Allis-Chalmers trademarks.

Ask for Free Bulletins and Engineering Information

Get complete information on these and other cost-saving A-C products for the textile industry. *Write for these free bulletins today.*

Allis-Chalmers Loom Motors	**51B7111**	**Power Generating Equipment, Transformers, Circuit Breakers, Power Distribution Equipment**	**25B6150**
Texrope Drives	**20B6051**		
Vari-Pitch Automatic Sheave	**20B7223**		
Dielectric Heater	**15B6431**		

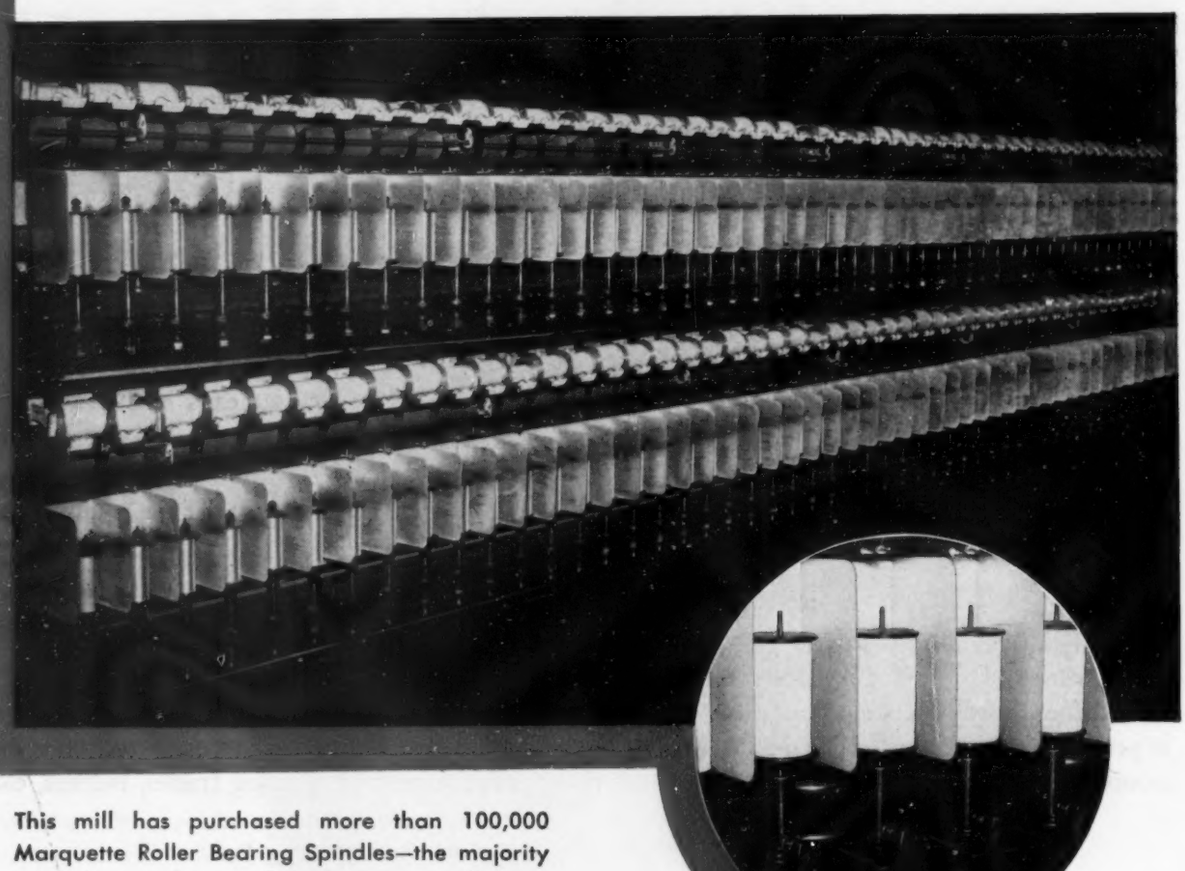
ALLIS-CHALMERS, 1054A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

Marquette ROLLER BEARING SPINDLES *with* FULL-FLOATING FOOTSTEP BEARING

For Cotton, Rayon, Nylon, Wool, Worsted



This mill has purchased more than 100,000 Marquette Roller Bearing Spindles—the majority as replacements, and the others on new frames. They are throwing nylon and rayon at speeds up to 13,700 r.p.m. with bobbins of ½ to 1½ pound capacity.

By operating at higher speeds, with larger packages and reduced power consumption, this mill is getting **more yarn at lower cost.** You too can modernize your old frames with Marquette Roller Bearing Spindles . . . or you can specify them on new frames. For a test installation, contact our home office or one of our representatives.

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The Marquette METAL PRODUCTS CO.

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Textile Industries

NOVEMBER, 1949

The American Textile Industry and - - -

The British Pound

If American textile industry executives have not been doing some serious thinking about the implications of cheaper British money, they will soon have to; and it would be wise for the leaders of the industry to offer some solutions to this problem and submit these to their representatives in Congress without waiting until an emergency arises.

THE RECENT devaluation of the British pound poses a serious problem to the entire American textile industry. The devaluation of money is merely a euphemistic way of cutting wages, and reducing prices in terms of a foreign currency. The British need dollars. For several years past we have been giving Britain several billions of dollars a year, but both we and the British know that this can not keep up indefinitely and that sooner or later Britain must earn the needed dollars by trade.

Since the beginning of the Industrial Revolution, one of the principal exports of the British Isles has been textiles. Britain has an abnormally large textile industry in proportion to the population of the country. It is expected that cheaper pounds will cause a tremendous increase in textile exports from Britain to the United States.

If a cheaper pound merely brought about a general increase in trade between our two countries, this would certainly be a healthy and desirable thing, but it is not likely to do that. It is almost certainly going to cause a big boom in textiles, chinaware, and certain other specialized products which the British are prepared to produce in great quantities.

Practically every yard of imported textile materials displaces an equal amount of goods of American manufacture. The American textile mills can produce more goods than this country can use, and the mills have been having rather rough sledding during the past year. Just now there is a considerable revival of demand for textiles, but this is probably due to the fact that for the past six months or so, buyers have been unwilling to get into the market until it was fairly certain what Congress would do about subsidies to cotton and other raw materials, and whether there would be a wave of wage cuts. Empty shelves and dwindling stocks have forced the buyers into the market, but so long as the American mills can produce more than the market can absorb, we can not expect to enjoy any solid prosperity in the textile industry. A tremendous increase in the importation of British goods could have a very critical effect on the entire industry.

The wages paid to British textile operatives before the devaluation of the pound were practically half of those paid in American mills. The British textile operative did not produce nearly so much goods per hour as his American counterpart, and that fact, together with our import duties, severely restricted the importation of British textiles in the United States. Now, however, with the British pound 30 per cent cheaper, the British textile employee's wages have actually been cut 30 per cent in comparison with American wages, and that should move a lot of textiles into this country. Furthermore, there is a very considerable likelihood of the tariff duties being extensively lowered, and this would throw a tremendous market open to the British mills and make things tougher for American mills.

FOR POLITICAL reasons, which have practically nothing to do with economic problems, the American people have got to see that Britain does not collapse. The British people have been our allies in the last two world wars, and we will be fighting with them in the next one, if, and when, it comes. It is therefore a political necessity for us to cooperate with the British in every possible way to keep their economy in a healthy condition. Since Britain has to import practically all of its raw materials and most of its foodstuffs, it has to do a large export trade simply to keep from starving, and a *very* large foreign trade to keep

(*Continued on page* 183)

STANDAFINS

for finishing

- A full range of body, hand and drape for all fabrics.
- Resistant to laundering and dry cleaning.
- Easy to apply on conventional equipment; no curing required.
- Compatible in bath with other finishing materials.
- Impart slip proofing and snag resistance to woven and knitted goods.
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STANDAFIN 77
Soft, full hand

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Firm, full hand

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NEWS in BRIEF

New England Competitive Position. The expectations of manufacturers in textiles in New England are that their competitive position within the industry will worsen during the next five years. This fact was brought out recently in a survey.

Effect of Devaluation of British Pound. Devaluation of the British currency is being eyed especially by the U. S. manufacturers of fine goods. It is felt that this move will bring more British fine cotton goods into this country in direct competition to these products.

Mills Flooded with Orders. Many mills recently received rush orders for large quantities of goods. Comments from management in some of these mills offer one explanation for the large volume orders to be filled in a short period of time: buyers were trying to take advantage of present wage levels in view of the proposed increase in the minimum wage (as provided by law).

Company Publications. A recent survey in the textile field discloses there are approximately 450 internal house organs or employee publications sponsored by mills, suppliers, and textile machinery manufacturers, with more in the planning stages. With the decline in activity the first half of 1949, only two publications were discontinued. The reasons for steady appearance of textile house organs and continuous growth of the field are mainly attributed to progressive mill management. The survey was conducted by "Textile Editor," an organ for mill editors and management.

Anglo-American Textile Conferences. All five of the major cotton textile associations participating in the Anglo-American textile conference at Manchester, England, last year, have approved the resumption of such conferences. The discussions are planned to be of a broad nature to embrace a wide range of problems connected with world trade in textiles.

Overweight Cotton Bales. Claude L. Welch of National Cotton Council estimates that one bale of cotton in every ten weighs more than 600 pounds. Disadvantages: overweight bales in some cases are subjected to penalties as high as $6 and may be rejected; cost more to load, handle, transport, and store.

Automatic Picker Doffer. Whitin Machine Works is developing and intends to place on the market next year an automatic doffer for pickers. The automatic doffer is said to eliminate the heavy first yard now present in laps, caused by the fan piling cotton on the cages when the picker stops to doff. Automatic doffers are standard equipment on many Swiss-made pickers and have been used in Europe for some time.

Ten Denier Nylon Hosiery. Full-fashioned hosiery knitters can look forward to cordial public acceptance of new ten denier nylon stockings. Thrown into two ply, the resulting yarn is stronger and more elastic than the singles of equivalent denier. Wearing quality of stockings made from this yarn is said to be superior to their 15 and 30 denier counterparts.

Fiberglas Yarns. Weavers of electrical insulation tapes woven of Fiberglas yarns have completed experimental weaving of the new 150s yarns for most of the standard electrical tapes.

Railroads Lose Business. Freight rates on textiles have been increased over 50 per cent the last three years, and railroads in both North and South have lost an im-

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TEXTILE EXHIBITS PREDOMINATE AT AIKEN (S. C.) COTTON FESTIVAL

Visitors to the exhibit of Clearwater Mfg. Company were given printcloth souvenir banners.

Graniteville Company exhibit had a loom in operation, Moving machinery attracts visitors.

Spectators pause before the exhibit of the Bath-Seminole Mills to see variety of fabrics made.

you SAVE MONEY *too*

ON JENKINS PROMPT SERVICE

For 37 years Mills have saved money through Jenkins precision workmanship and quality products.

Today, through Jenkins PROMPT SERVICE mills profit still further. Enlarged plant facilities, the most modern equipment, and highly efficient workmen assure you not only the best materials and highest skill but the *quickest possible delivery* of new or rebuilt spinning and twister frame cylinders, picker and card screens, and other textile specialties.

Let JENKINS Meet Your URGENT NEEDS with its IMMEDIATE SERVICE

JENKINS METAL SHOP
GASTONIA, N. C.

mense tonnage of cotton goods to trucking companies with lower rates.

Masland Television Show. C. H. Masland & Sons, carpet and rug manufacturers, are sponsoring a musical television series over the Columbia system. It features popular, ballad, operetta, and light classical music.

Dominican Mill to Use Local Cotton. The first large-scale yarn and textile mill in the Dominican Republic is encouraging the sowing of extensive areas of that country in cotton. Expectations are that the country will be able to fulfill its raw cotton needs by next year.

Hindustan-Pakistan Trade with United States. Concurrent with Indian independence, textile manufacturers of Pakistan and Hindustan have taken lively interest in American machinery. With England formerly having a monopoly of commerce with the federated Indian States, U. S. machinery makers found little trade in that Asiatic sector. In the swing over to American trade, it appears as if Great Britain will lose a huge segment of the Indian market now flushed with hard dollars and an understanding of the consistently high efficiency of U. S. production equipment.

NLRB Responsibility Decision. NLRB has handed down a decision which makes either a union or an employer, or both, responsible for back wages lost by an employee as a result of an illegal discharge.

Synthetic Exports. An analysis by the "Rayon Organon" of rayon and synthetic textiles and products exported during the first half of 1949 shows extensive increases compared to the previous year. Headed for new export peaks are nylon yarn, acetate yarn, and viscose tire cord and yarn.

Test for Twist on Monofilament Nylon. A new test method for accurately determining twist in 15 denier and other monofilament nylon yarns has been developed by the U. S. Testing Company.

Awards 76 Scholarships. New England Textile Foundation has awarded 76 five hundred dollar scholarships at four textile schools in New England for the 1949-50 scholastic year.

Prof. Jones acknowledges AATCC tribute. At speakers' table from left to right: **C. Norris Rabold**, vice-president of AATCC; **Russell Gill**, chairman of the Southeastern Section, AATCC; **Mrs. Jones**; **Prof. Jones**; and **Dr. George Royer** of Calco Chemical Division, American Cyanamid Co.

AATCC CITES PROF. C. A. JONES OF GA. TECH

The American Association of Textile Chemists and Colorists recently cited Prof. Charles A. Jones of the A. French Textile School, Georgia Institute of Technology, in an expression of appreciation for his many years of devotion to the highest aims of the organization.

C. Norris Rabold, vice-president of AATCC, read the citation during the October meeting of the Southeastern Section at Georgia Tech.

Texas for Wool Manufacturing. A new bulletin cites the advantages of West Texas as the place for wool textile manufacturing; published by Texas Technological College.

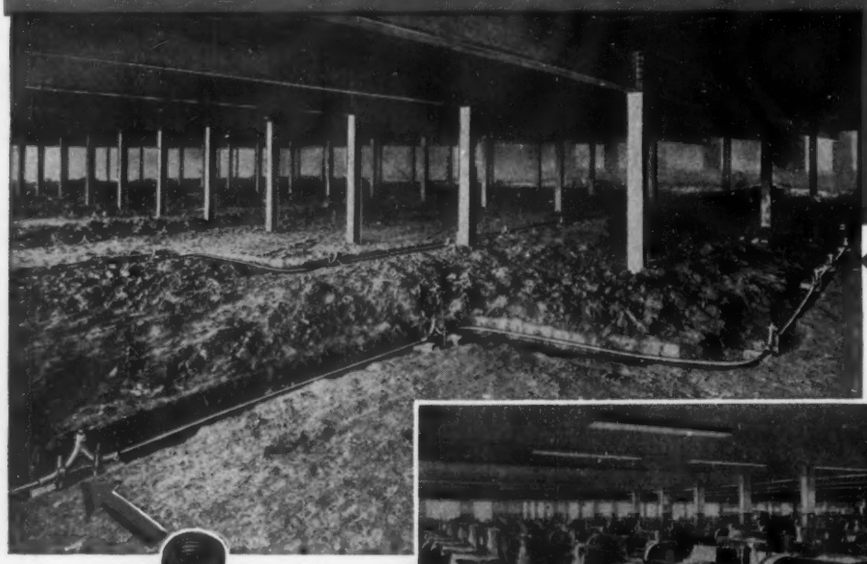
Management Should Realize. Speaking before the American Society of Mechanical Engineers, H. L. R. Emmet of General Electric Company said that "management should make the first concessions by sincerely realizing and acknowledging that the union is the employees' only safeguard against exploitation." Mr. Emmet then maintained that "the principle of unionism should not be confused with bad union leadership."

Erifon. A chemical which is said to make cotton and rayon flame-resistant, durable to weather and laundering, and which does not change the "feel" of materials has been announced by DuPont. Tradenamed "Erifon," the chemical locks into the molecular structure of the fibers, changing them chemically but causing no change in physical properties.

Cotton Filler Improves Strength of Phenolic Laminate. A new phenolic laminate manufactured by Synthane Corporation and which has high impact fatigue values is said to receive its improvement in strength from the use of a long-fiber cotton mat filler whose random fibers (non-woven) lie in all directions.

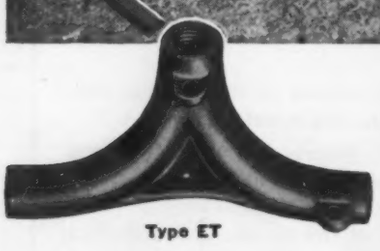
Improvements in Textile Machines. According to a number of mill superintendents, machine manufacturers should pay more attention to suggestions for machine refinements and improvements recommended by the mills. In some instances mill men report that various machine builders are reluctant to admit faults in their machines even after the mill produces

CROUSE-HINDS Large Radius Tees and Elbows . .



An electrical conduit installation using Crouse-Hinds Large Radius Type ET Tees in a mill before the concrete floor has been poured.

The same mill completed.



Type ET

Type ELB

Type EY

*CONDULET is a coined word registered in the U. S. Patent Office. It designates a product made only by the Crouse-Hinds Company.

. . . simplify electrical conduit installation in concrete floors

Where electrical conduit is concealed the use of Crouse-Hinds Cast-Feraloy Large Radius Tees and Elbows results in substantial savings in installation and in maintenance.

Saves Material. These *CONDULETS eliminate the necessity for flush floor boxes.

Easy To Wire. The wires can be brought directly up to junction CONDULETS or motor controllers, where it is easy to make the necessary taps and splices.

Maintenance Reduced. Taps and splices are out of reach of oil, water, or cleaning solutions that may be on the floor, completely eliminating future difficulties from this cause. If necessary, any portion of the sectionalized circuit between two tees can be readily replaced.

Crouse-Hinds Large Radius Tees and Elbows are equally useful for ceiling and sidewall outlets. These CONDULETS are made of cast Feraloy, which is inherently corrosion-resistant. The hubs have the CONDULET features of tapered threads and integral bushings, designed for easy fishing. Lugs are provided for anchoring to concrete forms.

These CONDULETS are listed on Page 14, Section 65, CONDULET Catalog 2500. The complete CONDULET line consists of thousands of items . . . . engineered to enable the electrician to do the job and do it right.

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proof of the need and offers a sound suggestion to correct the deficiency.

White Background Aids Ribbon Production. Strips of white glazed paper used for a background on the warps of ribbon looms are an asset to production when weaving fine denier yarns. Tacked behind the warp descending from spools, beneath the separator rods, and between the lay and shuttles, the white paper silhouettes fine yarn, thereby making the strands more visible. In the event of an end down, piecing is greatly facilitated.

Nylon Stymies Lace Manufacturers. For the time being, nylon and lace are on opposite sides of the fence. Nylon has a great affinity for graphite, the lubricant used on Levers lace machines. No soap is known by these manufacturers which will scour out the discoloring graphite and no substitute for graphite has been found for the machines. As a result, lace makers are hesitant about buying nylon, although the sales appeal is fully appreciated.

Packaged Knitting Yarns. Home knitters are purchasing labeled, packaged knitting yarns without objection to the inability to "feel" such yarns first. The acceptance has come about through brand familiarity, and confidence in the high quality consistent with major manufacturers.

Black and White Sheep. A flock of black-and-white sheep have been developed by the Animal Husbandry Department of the University of California. Certain chemicals fed the sheep colors the fleece. Fed the chemicals for a few days, the fleece changes in color; when returned to the regular diet, the sheep's fleece also returns to normal.

New Blends. "Nylaine" is a new lightweight fabric combining nylon with wool, perfected by Cyril Johnson Woolen Co. It is said to make possible lightweight garments with all the strength and durability of regular woolens. The fabric combines 20% nylon staple with 80% fine virgin wool.

Pacific Mills have developed a series of new blends of rayon and nylon for suiting and sportswear. Pacific's process is claimed to assure uniform distribution of the two fibers throughout the fabric. Pamylon is the trade name.

Research: the Cotton Fiber. Hairsplitting research revealing that individual cotton fibers are bundles of threadlets, each of which is only two-millionth of an inch wide, has laid the foundation for better textiles and plastics, according to Dr. Charles W. Hock of the Hercules Powder Co.

Reevon. A new type of plastic fabric for the seat covering market is made from woven monofilaments of Bakelite polyethylene; tradenamed Reevon (Reeves Bros.).

Increase in House Dress Production. House dress production showed an increase of 16 per cent last year over 1947, yet each woman in the country consumed only one house dress, according to the House Dress Institute. If each American woman would buy one more house dress annually, house dress manufacturers' production would be doubled and would require nearly 200,000,000 additional yards of cotton textiles.

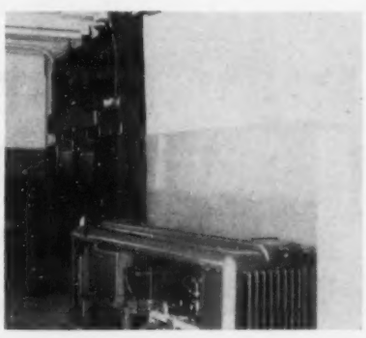
Booklet on Marshall Plan. A booklet titled "Information for American Businessmen on the Marshall Plan," has been prepared by The Office of Information, Economic Cooperation Administration, Washington 25, D. C. Some of the functions and procedures of operation of the Marshall Plan are described.

Voluntary Standards for Free Economy. According to Wallace F. Bennett, NAM president, it is essential that all who support the American system of individual responsibility and enterprise take active part in the voluntary standards movement, because the alternative is standardization which is not voluntary but directed and controlled by government.

Small Business Liaison Unit. The New York Quartermaster Purchasing Office, 111 East 16th Street, New York 3, N. Y., has set

EMERGENCY POWER PLANT GUARDS HOSIERY MACHINES

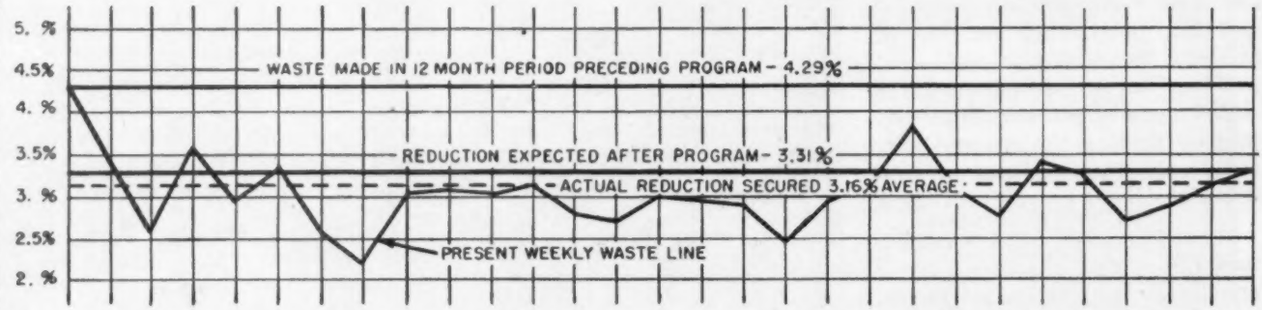
Full-fashioned hosiery machines at the H. W. Anthony Co., Strausstown, Pa., are maintained at constant temperature during power line failures due to storms. An FM 110-volt, 3-phase, 60-cycle portable power plant is kept at standby near the mill's panel board. Should utility company circuits disrupt from wind, snow, or icing conditions common during the winter, power panel switches are thrown over to the portable power unit.



The 6-cylinder gasoline engine-driven generator supplies voltage for heat and light circuits only. Although hosiery machines are idle from the power failure, delicate parts of the equipment are guarded from potential damages of chill and contraction. When normal power sources are reestablished, every section of the machines is prepared for immediate operation.

Less Waste Means Lower Costs

Actual case history graph. Based on waste reduction figures in prominent rayon mill.



Approximate savings, based on raw material value for 12 month period after program, $75,000.00.

We Guarantee These Results:

- Less Waste
- Closer Control of Waste
- Better Handling of Waste
- Lower Unit Cost

*Nearly a million and a half spindles use our waste reduction and control service.**

*Names of mills sent on request.

*Location of mills using Southeastern's waste control program.

SOUTHEASTERN ENGINEERING CO.
West Point, Georgia

( ) Please send me without obligation copy of booklet "Waste Reduction and Control".

( ) We would like for your representative to explain your service to us.

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ADDRESS_____

CITY_____ STATE_____

SIGNED_____ POSITION_____

SOUTHEASTERN ENGINEERING CO.

West Point, Georgia

"Specializing in Waste Reduction and Waste Control"

up a Small Business Liaison Unit. The primary function of the new unit is to establish an official and permanent contact for small business concerns to assist them in selling to the Quartermaster Purchasing Office.

Non-wage Labor Costs Increase. Non-wage labor costs have grown rapidly in recent years, and there is evidence that they will grow more. The average non-wage payments of 415 medium and large sized companies recently surveyed represent an additional 20.5 cents per hour worked, or $424 per year for each employee. The hourly wage rate is no longer a true reflection of the labor costs of operating a business. Costs are materially increased by the addition of such payments as social security, pensions, vacations, holidays, profit-sharing programs, suggestion awards, etc.

Industrial plants should give greater recognition to the "hidden payroll" in reporting to the public, emphasizing that non-wage benefits are supplements to employee income and components of industry's labor costs.

Textile Manufacturing Disadvantages in New England. Textile manufacturers in New England have listed the following factors as disadvantages in manufacturing: Cost of fuels, state and local taxes, wage rates, cost of electric power, relations with labor, non-tax laws, and cost of transportation. The cotton branch of the textile industry was the least satisfied of all manufacturing groups with its New England location.—Source, D. Harry Angney, Federal Reserve Bank of Boston.

Czech Fair. More than 30% of the industries in Czechoslovakia displayed their wares at the trade fair held in Boston during September. Czechoslovakia was the first country to organize a large-scale fair in the U. S.

Marking Cotton Bales. Complaints of marking ink on cotton bales getting into the cloth caused compress companies to discontinue brushing the mark on mesh bale covering. It is now shown in pencil on the compress tag. Opinion has been expressed that shippers could make a real contribution to the transportation of cotton by having the mark and destination stamped on tags attached to each end of the bale, on replacement shipments.

Orlon Slated for Outerwear. Evaluation of recently developed fabrics woven and knitted from Orlon yarn indicates specific outerwear usage. Sweaters made from Orlon have a cashmere texture, high insulating properties, and light weight. Cloth is strong and virtually creaseproof without further chemical additives.

Labeling Australia's Textile Products. Compulsory labeling of wool and other textiles and textile products, produced domestically or imported, is expected to be made effective in Australia beginning January 1, 1950. The ruling provides that textile products must carry a trade label specifying fiber content in order of importance by weight.

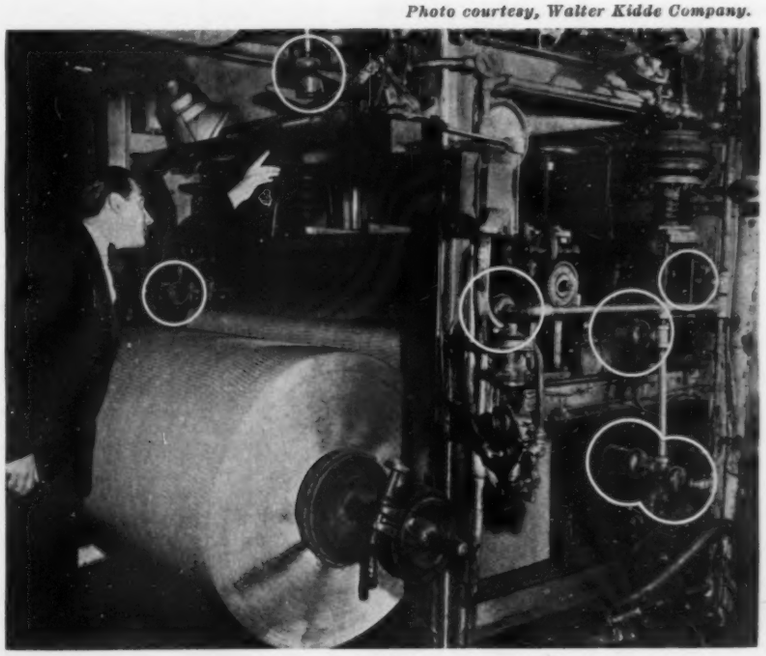
Fringe Benefits in Steel. A report on a nationwide survey of fringe wage payments for the year 1948 in the steel casting industry showed that some foundries are paying as much as 38.2 cents per hour in fringe benefits.

Household Finance Corporation Consumer Education. Educational materials produced by trained home economists are described in "Consumer Education Program." The 12-page booklet is a result of Household's experience in dealing with the money problems of families, including those pertaining to household textiles, floor coverings, fabrics, and hosiery. Household Finance Corporation, 919 North Michigan Avenue, Chicago 11, Ill.

BUILT-IN FIRE PROTECTION

Twenty multijet nozzles located at danger points throughout Firestone's nylon fabric rubber impregnating machinery stand ready to envelope the unit with inert, fire-killing carbon dioxide. Nylon is used in tire cord manufacture.

Photo courtesy, Walter Kidde Company.



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for Cottons, Rayons, Mixed Goods

An amylolytic enzyme preparation particularly adapted for faster, more economical de-sizing in any equipment. Its wide range of operation temperatures permits highest speed with most economical production. Its starch-solubilizing action is doubled with each 18° rise in temperature between 120° and 200° F.

SERIZYME®

higher quality work

for Acetates and Acetate-Rayon Mixtures

A proteolytic enzyme product that safeguards against streaky dyeing . . . Produces a finer hand . . . Assures uniform quality . . . Clearer cross dyes. SERIZYME liquefies protein and albuminous sizes and removes them completely.

Our technicians are available to visit your plant on request . . . Write for technical booklet.

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AN

EXECUTIVE VIEWS

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

*The ACMA-CTI Merger

ANNOUNCEMENT from Charlotte of the formation of the American Cotton Manufacturers Institute, Incorporated, does not come as a surprise to those who have followed the slow but steady progress of this movement but, nevertheless, it is a matter which is of major importance to all the textile industry. For the first time in the history of the industry, there is one strong, dominant trade association representing the spinning and weaving mills.

In order to understand the implications of this movement, it is necessary to know a little about the background which led up to it.

First, it should be understood that the National Association of Cotton Manufacturers with headquarters in Boston is not as its name implies "national." Actually, it is a regional organization representing the spinning and weaving mills in the New England states. Under the plan which was formulated at Charlotte, the National Association maintains its autonomous position and is in somewhat the same status of the state textile associations in the South. The state associations were not affected by the move and each continues to operate in its local sphere.

ACMA History in Brief

The American Association was organized in Charlotte in 1897 as the Southern Cotton Spinners Association. In 1903 it was incorporated and given its present name. From the beginning, it was the major textile association in the South but due to the fact that in those days the southern industry was made up of rugged individualists it was not the force for common good that it was later to become. Its first president was Colonel J. T. Anthony who was widely known in several different fields, and Colonel Anthony was succeeded by D. A. Tompkins who probably did as much as any other single individual to mold the industrial destiny of the southern region of the United States.

In the early years, of course, the major portion of the industry was in New England, and it was not until around 1925 that the scales began to tilt southward. It is not difficult to understand, therefore, that there was more rivalry than cooperation between the National (New England) Association of Cotton Manufacturers and the American Association.

Several efforts had been made to bring about greater cooperation between the two groups, the most notable being the formation of the "National Council of American Cotton Manufacturers." Through that effort, it was visualized that representatives of the northern group and southern group would meet together from time to time and consider questions upon which they might cooperate, with particular reference to the Washington picture.

This, however, lasted only a few years and once again the old "dog eat dog" policy came back.

Formation of The Cotton-Textile Institute

However, somewhat as an outgrowth of this idea, The Cotton-Textile Institute was formed in 1926. Its founders visualized it as a happy meeting-ground where northern manufacturers and southern manufacturers could come together and agree upon questions of mutual interest. It was anticipated that the Institute would do statistical work and would carry on such other functions as are customary with trade associations.

In some respects, the work of the Institute thus came in conflict with the work of both the National Association and the American Association. Although the manufacturers who were active in trade association work at that time might differ regarding this question, it seems apparent today that as long as an organization was operating exclusively in the South which was virtually as large as the Institute, the latter organization was at a

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Nov. 28-Dec. 3—Exposition of Chemical Industries, Grand Central Palace, New York, N. Y.

1950

Jan. 16-19 — First Plant Maintenance Show, Auditorium, Cleveland, Ohio.

Jan. 23-25 — Annual Meeting, National Cotton Council, Hotel Peabody, Memphis, Tenn.

Mar. 30-April 1—Annual meeting American Cotton Manufacturers Institute, Palm Beach Biltmore Hotel, Palm Beach, Fla.

April 24-28—Knitting and Allied Crafts Exposition, 71st Regiment Armory, New York, N. Y.

April 25-26—Annual convention, National Knitted Outerwear Association, Hotel Waldorf-Astoria, New York, N. Y.

April 27-29—Annual convention, Alabama Cotton Manufacturers Association, Buena Vista Hotel, Biloxi, Miss.

May 1—Annual meeting, National Association of Hosiery Manufacturers, Claridge Hotel, Atlantic City, N. J.

May 1-2—Hosiery Industry Conference, Claridge Hotel, Atlantic City, N. J.

May 8-12—American Textile Machinery Exhibition, sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J.

May 11-13—Annual meeting, Cotton Manufacturers Association of South Carolina, Fort Sumter Hotel, Charleston.

June 1-3—Annual convention, Southern Textile Association, Ocean Forest Hotel, Myrtle Beach, S. C.

June 12-16—Materials Handling Exposition, International Amphitheatre, Chicago, Ill.

Oct. 2-7—16th Southern Textile Exposition, Textile Hall, Greenville, S. C.

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All equipment will last longer — give better service — if you use the proper lubricant. That's why you'll find it profitable to use Tycol high quality oils and greases.

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tremendous disadvantage.

In short, there was already enough duplication of trade association effort in 1926 without members of the industry creating still more.

The Problem

As the years went by, it became apparent that trade associations were costing the mills more than they should. There were state associations, yarn associations, regional associations, and then there was a Cotton-Textile Institute which had been established as a national organization but which frequently found it impossible to express an opinion because of the strong forces which pulled at it from both the North and the South.

For a number of years, thoughtful men in the industry have felt that something should be done to cut through this web of confusion, that something should be done to establish a more orderly manner in which the industry might be represented. Since sentimental attachments were felt by members of the National Association, the American Association, and the Institute, the problem was further complicated. Also involved was the question of personalities, because the staffs of the various organizations were composed of people who had given many years of their lives to the development of textile trade association work.

Finally it was decided that the move would take the form of a consolidation of The Cotton-Textile Institute with the American Cotton Manufacturers Association. In some industry circles, the step has been called a swallowing of the Institute by the American Association rather than a consolidation, and these people have based their opinions on the fact that the officers of the American Association will be the officers of the new group and headquarters will be maintained in Charlotte.

Nevertheless, it seems to be rather generally recognized that the move is a constructive one and that it will improve the efficiency of the associational work being done for the mills and will to some extent reduce expenses.

On a basis of such information as has been given out to the press, it appears that these are the principal results of the "consolidation":

1. The last word in the American Association's name has been changed to "Institute."

2. New England mills, as well as southern mills, will belong to the new group.

3. Much duplication of effort will be eliminated.

4. Mills which previously belonged to both the Institute and the American Association will save money by the consolidation.

5. The industry will at last be represented by one powerful, unchallenged organization.

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AMERICAN COTTON MANUFACTURERS INSTITUTE

President

Ellison S. McKissick, Alice Manufacturing Company, Easley, S. C.

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Robert C. Jackson, Charlotte, N. C.

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Second Vice-President

Wm. H. Ruffin, Erwin Cotton Mills Company, Durham, N. C.

Secretary-Treasurer

F. S. Love, 203-A Liberty Life Building, Charlotte, N. C.

Directors

The following were elected to serve as directors until the first annual meeting, which will be held at Palm Beach, Florida, March 30-April 1, 1950:

Thomas Bancroft	Mount Vernon-Woodberry Mills, Inc.	Baltimore, Md.
W. H. Beattie	Woodside Mills	Greenville, S. C.
R. H. Chapman	Inman Mills	Spartanburg, S. C.
Norman Elsas	Fulton Bag & Cotton Mills	Atlanta, Ga.
F. A. Flather	Boott Mills	Boston, Mass.
R. Dave Hall	Stowe Thread Company	Belmont, N. C.
H. K. Hallett	Kendall Mills	Charlotte, N. C.
J. B. Harris	Greenwood Mills	Greenwood, S. C.
Gordon Harrower	Wauregan Mills, Inc.	Wauregan, Conn.
Chas. C. Hertwig	Bibb Manufacturing Company	Macon, Ga.
Julian T. Hightower	Thomaston Mills	Thomaston, Ga.
Joe L. Lanier	West Point Manufacturing Company	West Point, Ga.
G. O. Lienhard	Chicopee Manufacturing Corporation	New Brunswick, N. J.
Frank W. Lyman	Fitchburg Yarn Company	Fitchburg, Mass.
Roger Milliken	Deering, Milliken & Company, Inc.	New York, N. Y.
Paul A. Redmond, Jr.	Alabama Mills, Inc.	Birmingham, Ala.
Ernest Rees	Elk Cotton Mills	Fayetteville, Tenn.
W. A. L. Sibley	Monarch Mills	Union, S. C.
J. Craig Smith	Avondale Mills	Sylacauga, Ala.
Elliott W. Springs	The Springs Cotton Mills	Lancaster, S. C.
Earle R. Stall	Florence Mills	Greenville, S. C.
Hearne Swink	Cannon Mills Company	Kannapolis, N. C.
Wyllys H. Taylor	Newnan Cotton Mills	Newnan, Ga.
A. K. Winget	Efird Manufacturing Company	Albemarle, N. C.

In addition, ex officio members are to include the following:

Ellison S. McKissick	Alice Manufacturing Company	Easley, S. C.
George P. Swift	Muscogee Manufacturing Company	Columbus, Ga.
Wm. H. Ruffin	Erwin Cotton Mills Company	Durham, N. C.
Robert C. Jackson		Charlotte, N. C.
Wm. D. Anderson	Bibb Manufacturing Company	Macon, Ga.
W. N. Banks	Grantville Mills	Grantville, Ga.
C. A. Cannon	Cannon Mills Company	Kannapolis, N. C.
J. H. Cheatham	Dundee Mills, Inc.	Griffin, Ga.
Donald Comer	Avondale Mills	Birmingham, Ala.
Hugh M. Comer	Avondale Mills	Sylacauga, Ala.
Herman Cone	Cone Mills Corporation	Greensboro, N. C.
A. M. Dixon	Trenton Cotton Mills	Gastonia, N. C.
Geo. S. Harris	Dan River Mills, Inc.	Danville, Va.
R. E. Henry	Victor-Monaghan Company	Greenville, S. C.
Percy S. Howe, Jr.	American Thread Company	New York, N. Y.
K. P. Lewis	Erwin Cotton Mills Company	Durham, N. C.
W. S. Montgomery	Spartan Mills	Spartanburg, S. C.
Harvey W. Moore	Brown Manufacturing Company	Concord, N. C.
Fred W. Symmes	Nuckasee Manufacturing Company	Greenville, S. C.
W. J. Vereen	Moultrie Cotton Mills	Moultrie, Ga.

Also elected as ex officio members were the following chief non-paid executives of various other textile associations:

B. G. Stumberg ---------- Tallassee, Ala.
Chairman of the Board, Alabama Cotton Manufacturers Association

N. Barnard Murphy ---------- Trion, Ga.
President, Cotton Manufacturers Association of Georgia

Karl Bishopric ---------- Spray, N. C.
President, North Carolina Cotton Manufacturers' Association, Inc.

J. B. Harris ---------- Greenwood, S. C.
President, The Cotton Manufacturers' Association of South Carolina

Frank W. Lyman ---------- Fitchburg, Mass.
First Vice-President, National Association of Cotton Manufacturers

E. N. Brower ---------- Hope Mills, N. C.
Chairman of the Board, The Carded Yarn Association, Inc.

Fred L. Smyre, Jr. ---------- Gastonia, N. C.
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MEADOWS

BALL-BEARING TAPE TENSION PULLEYS

Many mills are meeting today's problem of *raising* quality and output, while *lowering* production costs, by replacing worn and stickly plain-bearing tape tension pulleys with Meadows Ball-Bearing Units.

These *Meadows Modernizers* save *power*, by preventing power loss due to gummed pulleys; save *money*, by maintaining uniform spindle speed, and eliminating rejects due to slack yarn; save *time* by eliminating tapes sliding off pulleys when starting up.

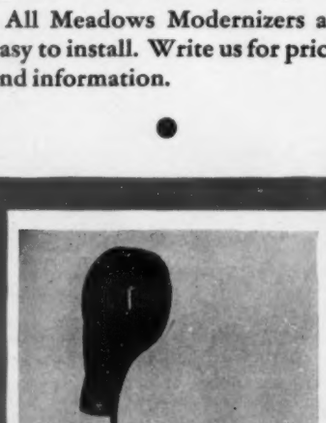
Different pulley sizes, brackets and weights to handle any frame up to heaviest cable twisting.

All Meadows Modernizers are easy to install. Write us for prices and information.

B-212R-213
For Whitin Twister. Pulley 4-5/16" dia x 2" face. Can also furnish pulley B-226, 4¼" dia x 1⅝" face.

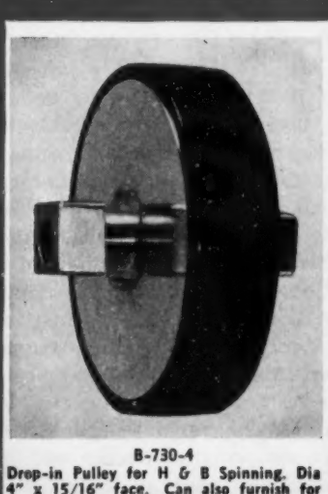
B-214L-202
For Whitin and Saco-Lowell Spinning. Can also be adapted to other make frames by use of Meadows, accessories. Pulley 3-3/16" dia x 1¼" face.

B-211R-213
For Twisting frames. Pulley 4-5/16" dia x 2" face. Can also furnish Pulley B-226, 4¼" dia x 1⅝" face.



B-205L-202
For Prince-Smith, Hall-Stell and Saco-Lowell worsted spinning. Pulley 3-3/16" dia x 1¼" face.

B-216L-202
For Mason Spinning. Pulley 3-3/16" dia x 1¼" face.



B-730-4
Drop-in Pulley for H & B Spinning. Dia 4" x 15/16" face. Can also furnish for Saco-Lowell and Whitin spinning frames.

B-275-282
Idler Pulley for Atwood Throwing. 3" dia x 2" face. Furnished for other makes of frames.

MEADOWS MANUFACTURING CO. · ATLANTA, GA.

SHORTS and REMNANTS

New Use for Cotton

Last January the National Cotton Council's car advertising offered cotton seeds to all who requested. Reports coming in to the Council indicate interest—'twas a good promotional scheme. However, one Boston housewife found a possible new use for cotton: Her plants came up fine, but when they reached the height of a few inches, "the cat ate them."

Establishing Reference Library

"When I subscribed recently to TEXTILE INDUSTRIES I had no idea that so much useful and timely information would be placed before me. Through the current articles and the reprints available, I find I can further my textile education. I am endeavoring to establish a reference library of information on various phases of the textile industry and would appreciate your sending me one copy each of reprints you have in your files."

ALSTON H. PICKETT, Jr.
Bemis Bro. Bag Co.
Bemiston, Ala.

Woolen and Worsted Textbooks

". . . am a regular reader and wonder whether you could help me in my search for woolen and worsted textbooks."

G. M. BORNET
Sorel, Quebec
Canada

● Chapter 24 of the "American Wool Handbook" 2nd edition, (303 Fifth Ave., New York) contains a bibliography of American and English books on wool processing.

Dictionary

"In your September columns you mentioned the 'Callaway Textile Dictionary.' Would you kindly let me know where I could obtain this book?"

JOHN J. REILLY
9 Hayes Road
Salem, Mass.

● Available from Callaway Mills Co., LaGrange, Ga. Price, $4.00.

Winding Series Reprints

"I have just finished reading the concluding article of the series entitled 'Winding Machines—Principles and Practices,' which appeared in TEXTILE INDUSTRIES. If you have had any reprints made of this entire series of articles, I should appreciate receiving a half dozen copies . . ."

V. O. ROBERSON, JR.
Manager
Ashland Corporation
Jewett City, Conn.

● The first half of the series on winding by Jesse Stribling has been reprinted. The last half of the series is now being published in pamphlet form by Universal Winding Company, Providence, R. I. Requests for the series should go directly to Universal, or, we will forward them if you write us.

Cooperation

". . . returning herewith the information you so kindly lent us on materials handling equipment for the textile industry. This material was of great value to us, and we appreciate your grand cooperation."

J. B. WEST
Aluminum Company of America
Atlanta, Ga.

South America

. . . "We are writing at this time just to let you know that we have been receiving this publication (TEXTILE INDUSTRIES) regularly and have found it very interesting. As a matter of fact, some of our associated companies in South America are also receiving this publication and occasionally request us to purchase some equipment 'as advertised in TEXTILE INDUSTRIES.' Consequently, we find this publication not only interesting, but useful."

E. MARSHACK
Bunge Corporation
42 Broadway
New York.

"Going Concern Gone"

"I have just finished reading your editorial in the September issue, 'A Going Concern is Gone.' If possible I would like to have a hundred reprints."

SUPERINTENDENT

Materials Handling Section

" . . . very interested by . . . the TEXTILE INDUSTRIES of July concerning the 'Materials Handling in the Textile Mill' . . . I would like to know under what conditions it will be possible to have this item."

NAME WITHHELD

● Reprints of this one are not available, but in this instance tear sheets were furnished.

Service, Service, Service!

It Makes Us Happy!

Alabama Hosiery Mills, Inc. ". . . would appreciate your sending us about five reprints of article by S. H. Boyer of Wisteria Hosiery Mills entitled 'Looping and Seaming Machines.' "

Alexander Smith & Sons Carpet Co. " . . . six reprints of 'Materials Handling in the Textile Mill' and 'Loom Lubrication' (parts 1 and 2)."

Indian Central Cotton Committee. Reprint of "Speeding Cotton Stapling with Fibrograph."

Vocational School. " . . . please send us pamphlet 'Visual Aids for the Textile Industry.' "

Cotton Mill. ". . . thank you very much for all the information regarding continuous strippers . . . superintendent will hold a clinic with card grinders."

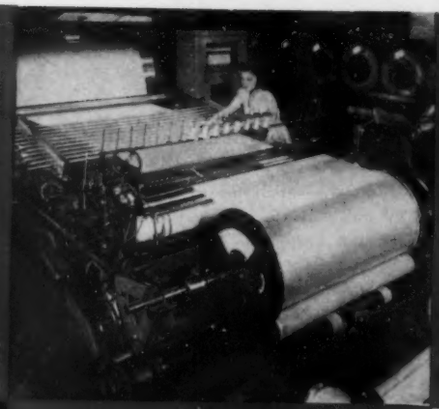
Ramie Development Corp. "Please send reprint of 'Crease Resistant Finishes' which was published in your September and October 1948 issues."

Jackson Mills. ". . . kindly send us the address of John Wiley & Sons; and Harper Brothers. Interested in book suggested in TEXTILE INDUSTRIES."

Caron Spinning Co. "Winding articles . . . proved valuable . . . anxious to obtain reprints of all articles on this subject."

McGill Mills. ". . . needing a good source of supply for random dyed yarns and will greatly appreciate your advising us the names and address of a few mills that make random yarn."

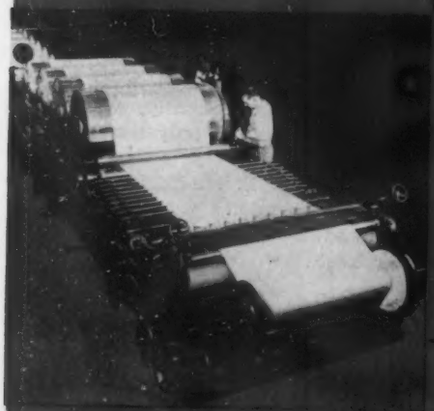
FIVE REASONS WHY LEADING MILLS CHOOSE JOHNSON SIZERS:



REASON No. 1

They give the most in quality and quantity of production, continuously over many years.

⇐ Textron, Inc.

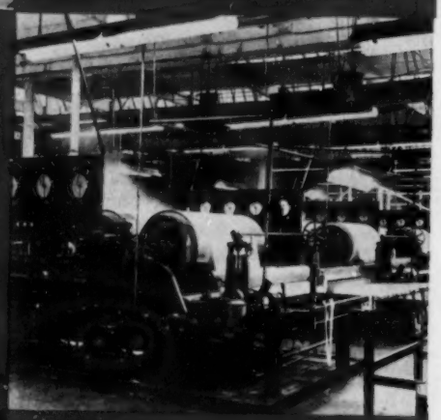


REASON No. 2

There is no useless elaboration in their design, and no weak points in their construction.

⇐ American Viscose Corp.

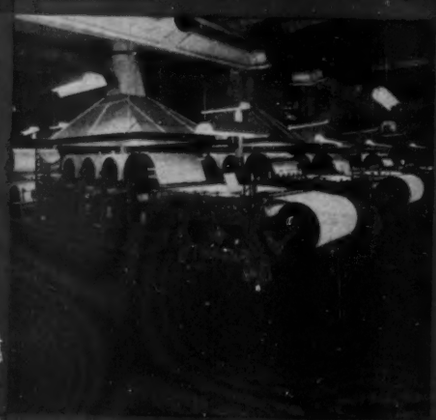
Hoosac Mills ⇒



REASON No. 3

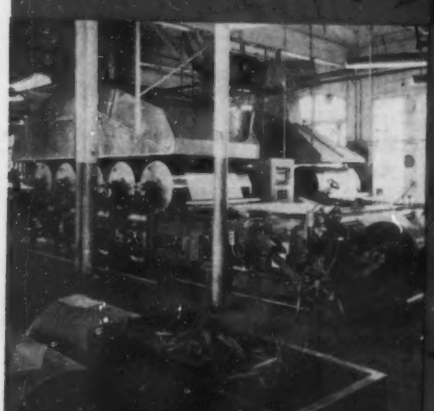
Automatic and semi-automatic controls assure successful operation and prevent shutdowns.

Robbins Cloth Mills, Red Springs ⇒



REASON No. 4

The Johnson policy of fast service, when it is required, makes no exceptions.

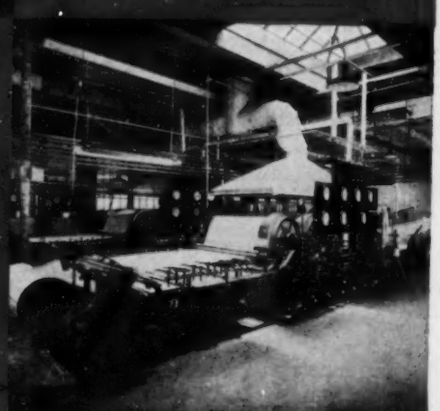


REASON No. 5

The mills that use Johnsons are the leaders in efficiency everywhere—here and in over 30 foreign countries.

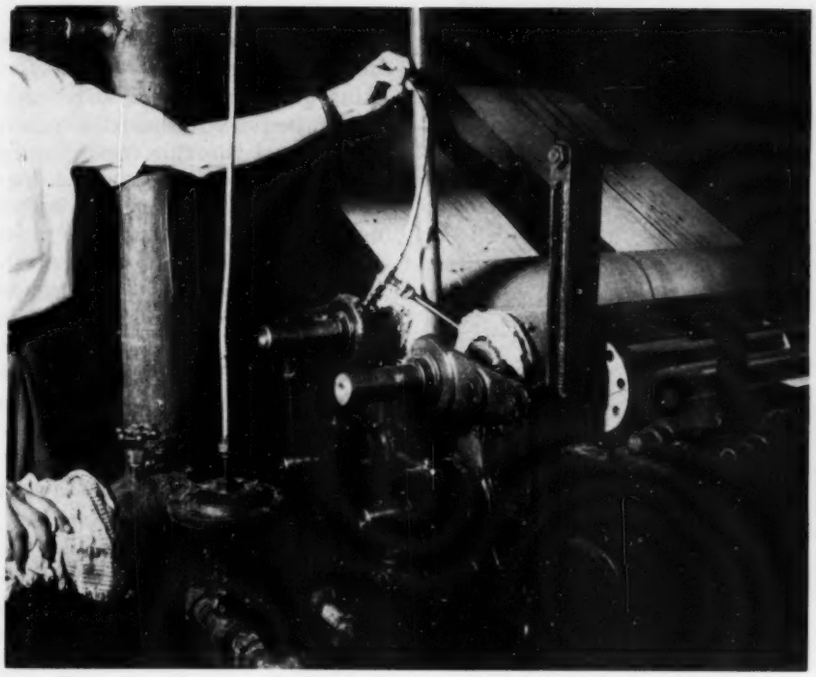
⇐ Gilt Edge Textile Mills

Peerless Mills Co. ⇒



Charles B. Johnson

PATERSON, NEW JERSEY U. S. A.



Hanging a thermometer in the size box is wrong and can lead to damaged parts and equipment. See close-up of damage to capilllary tube and thermometer coupling.

Kinked tube and loose connection on thermometer bulb and capillary tube. Both resulted from hanging in the size box.

Increasing Mill Production Through

Effective Instrument Maintenance

Part 1

By E. A. MURPHY

Minneapolis-Honeywell Regulator Co.

Brown Instruments Division

EXCLUSIVE T.E.

THIS ARTICLE is the first of a three-part series to acquaint the individual who is unfamiliar with industrial instruments with the basic operating principles, installation, and maintenance factors of those instruments most commonly encountered in the mill and to aid him in establishing an effective maintenance program.

A MILL operator would never think of running a loom or a slasher for month after month without any kind of maintenance. Neither would he install a piece of expensive machinery in a location where it would be likely to be damaged by passing trucks or material handling equipment. He wouldn't make either of these mistakes because he knows that, in the case of any piece of mechanical production equipment, fifteen minutes a week devoted to preventive maintenance can forestall expensive breakdowns, and that each hour cut from maintenance time is added to valuable operating time, thereby increasing production and decreasing operating costs.

Strangely enough, this same operator all too frequently overlooks the fact that the industrial instruments used throughout the mill are also precisely manufactured pieces of mechanical equipment, and that, as such, the care exercised in their installation and maintenance plays an important part in determining future maintenance problems.

Instrument Charts. Every indus-

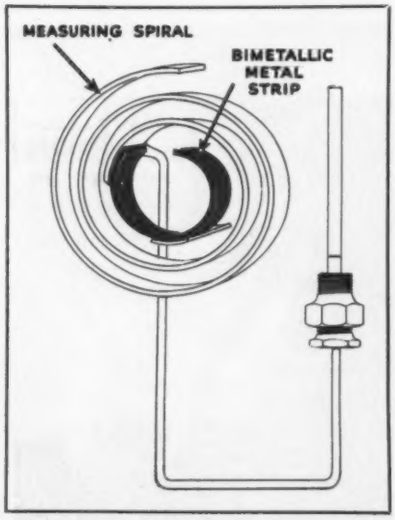
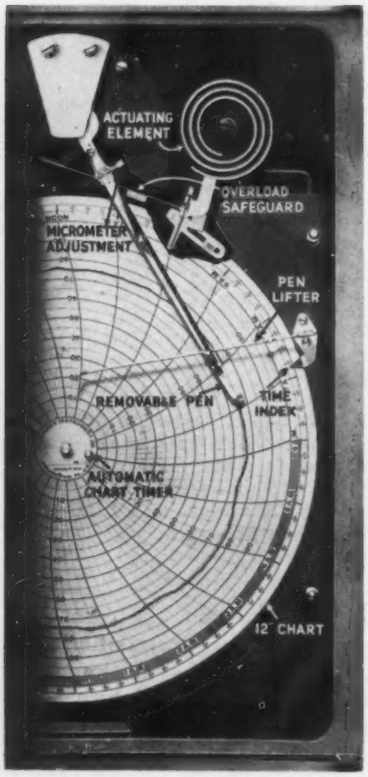


Fig. 1. Sealed thermometer system of pressure type thermometer showing: temperature - sensitive bulb, armored capillary tubing, spiral actuating element, and bimetallic strip which compensates for changes in temperature.

trial recording instrument is carefully calibrated to read a certain variable, such as temperature pressure or flow, over a given range, and in specific units such as degrees Centigrade or Fahrenheit. It is evident, therefore, that each instrument will read correctly only if the chart used with it agrees with the calibration of the instrument.

Fig. 2. View of typical recording thermometer with case open, showing method of connecting recording pen to actuating element.



Unfortunately, a casual glance at an instrument chart is not always sufficient to identify it correctly, and in many cases errors have been made. Charts calibrated in degrees Centigrade have been placed on instruments calibrated to record in degrees Fahrenheit; evenly divided pressure gauge charts have been placed on flow meters requiring charts with square root division; and charts for vapor actuated thermometers (unevenly divided) have been placed on mercury or gas actuated thermometers which employ evenly divided charts.

In most instances, the error is detected only after a service engineer is called as a result of the instrument reading incorrectly, and it is evident that the time taken to insure the use of the correct chart with each instrument is more than justified when balanced against the time and expense involved in trying to determine why an instrument with an incorrect chart apparently reads in error.

Thermometers. The pressure type thermometer is probably one of the most widely used instruments in the mill. It is employed as an indicator, a recorder, or as an indicating or recording controller with either pneumatic or electric control. It does its job quietly and at first glance seems to contain no moving parts requiring preventive maintenance. Proper installation assumes a major role in setting the pattern for future maintenance requirements.

A complete understanding of the physical construction and principles of operation of a pressure type thermometer will do much to eliminate those maintenance problems attributable directly to faulty installation.

Shown schematically in Fig. 1 is a thermal system, the heart of a presure type thermometer. This system contains the actuating medium (gas, vapor or mercury) under pressure, and is sealed at the factory. The complete system includes a temperature - sensitive bulb, a length of armored capillary tubing, and a spiral actuating element.

When the bulb is exposed to an increase in temperature, the actuating medium expands and develops an increased pressure which is transmitted through the capillary tubing to the actuating spiral. Under increased pressure, the spiral unwinds slightly, and since its movable end is linked mechanically to the pen or pointer, as shown in Fig. 2, causes the instrument to record or indicate a higher temperature. Reverse action takes place when the temperature of the area surrounding the bulb decreases.

Leak In Thermal System Always Serious. Referring again to Fig. 1, it should be remembered that the entire thermal system is sealed under pressure when it leaves the factory, and that any leak, no matter how small, will allow all or part of the actuating medium or "fill" to escape, rendering the instrument useless until repairs have been made. Relatively few mills are equipped with instrument shops possessing equipment and personnel capable of refilling and sealing thermal systems, and damage to a thermometer resulting in partial or complete loss of fill usually means that the damaged thermal system must be sent back to the manufacturer for repairs. When this occurs, the instrument is inoperative for an appreciable length of time.

Preventing Leaks In Thermal System. Location of the thermometer bulb, the capillary tubing, and the instrument itself must all be considered when installing the temperature measuring system if damage which will cause loss of fill is to be avoided. Obviously, the bulb should be placed where it will not be struck by any moving parts of the processing equipment such as scrapers or agitator blades. It should be firmly mounted so that there will be no continuous vibration or flexing action between the bulb and the connecting capillary tubing since such action, over a period of time, can cause hairline cracks in the capillary tubing.

In one mill, the bulb for a size

box temperature controller was supposed to be inserted through a fitting in the side of the size box. Untrained or uninstructed personnel installing the equipment chose to hang the bulb over the side of the box until it was immersed in the size solution. Although the bulb was loosely wired in place, continued vibration of the slasher caused the wire to work loose in a few days. The bulb swung over, got caught in the nip of the squeeze rolls, and proceeded on through the rolls, dragging behind it, capillary tubing and assorted instrument parts.

Although an accident of this seriousness is the exception rather than the rule, it clearly illustrates the needless maintenance problems which almost invariably arise from incorrect location of the thermometer bulb.

Head Effect On Mercury And Vapor Actuated Systems. When the thermal system contains a liquid, as is the case with vapor or mercury actuated thermometers, the elevation of the temperature-sensitive bulb with respect to the actuating spiral is of great importance. This is true because of the effect of the static head of liquid on the actuating spiral.

If, for example, the bulb is moved to a higher elevation than originally specified when the instrument was ordered, the pressure of the static head of liquid is added to the pressure caused by the expansion of the actuating medium in the bulb, and the instrument will indicate or record a temperature above the true measured temperature. If the bulb is moved to a location below that originally specified, the instrument will read a temperature below the true measured temperature.

This fact should be born in mind when a calibration check is made. Unless the constant temperature checking bath is kept at the same elevation as the bulb location, the check may indicate a calibration error which, in reality, is due to the head effect of liquid in the thermal system. If this condition is corrected and the bulb is replaced in its original location, the result will be an error introduced by the incorrectly made calibration adjustment.

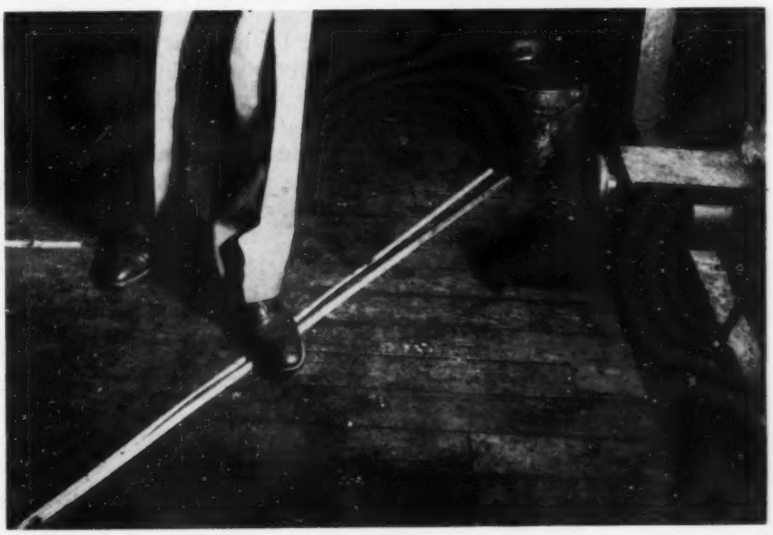
Showing proper installation of thermometer bulb in size kettle. The bulb is installed in the correct location, its position is fixed and stationary, and it is out of the way of moving parts.

Select Proper Material. Selection of correct bulb material is essential when the bulb is to be immersed directly in a fluid of a corrosive nature without any protecting sheath or immersion well. Bulbs of 304 stainless steel, for example, frequently give trouble in size solution. Bulbs of 316 stainless steel, on the other hand, will give satisfactory service in most textile mill applications.

Faulty Installation Causes Unnecessary Maintenance. In some instances, improper installation, while not injuring the bulb in any way, can cause erratic instrument operation which the maintenance department may try to correct by making adjustments to the instrument itself. A size cooking kettle in which the thermometer bulb is mounted right next to the steam coil is an excellent example of such an installation.

The temperature measured by any thermometer is the temperature of the area immediately adjacent to the bulb. It is evident

This type of makeshift protection for capillary tubes results in broken tubes and other expensive repairs.



Capillary tubes should be in a place out of the way of moving objects or possible damage. These tubes run directly from the instrument panel to the ceiling and across to the sensitive element at the other end of the line.

Proper location of instrument panel is out of the way of possible damage from working operations, yet clearly visible to the operative.

that in this case, the temperature indicated or recorded by the instrument will always be several degrees higher than the average true temperature of the size solution.

A thermometer bulb must always be installed so that it is exposed only to the temperature which it is desired to measure. When the instrument is a controller, it is especially important that the bulb be kept away from steam coils or burners.

Care of Capillary Tubing Essential. With a bulb of the proper material correctly installed, it is next advisable to consider the capillary tubing. Although this tubing is generally referred to as "armored," it is not designed to withstand a great deal of mechanical abuse and should not be handled like a length of rubber hose. Since it is capillary tubing, i.e., has an extremely small inner diameter, it follows naturally that any crushing or acute bending restricts the flow of actuating medium from the bulb to the spiral and vice versa, and therefore results in erratic instrument operation.

For greatest speed of response and least capillary maintenance, it is best to locate the instrument as close as possible to the point of measurement, thereby reducing the length of required capillary tubing to a minimum. When the tubing is run exposed along a wall or ceiling, it should be supported every twelve inches. Many mills make it a practice to run capillary tubing inside of a pipe or conduit. This accomplishes the dual purpose of supporting the tubing and protecting it from mechanical damage.

Every effort should be made to avoid running capillary tubing along the floor. When it is absolutely necessary to do so, adequate protection should be provided. In one mill, capillary tubing was run across an aisle to a wall-mounted instrument. Since the aisle was used by lift trucks, parallel strips of wood were installed along the floor to protect the tubing. After a few weeks, these wood strips crushed and splintered, leaving the entire weight of the truck wheels to be supported by the capillary tubing. The result—a broken capillary, lost fill, and therefore a ruined thermal system.

Fortunately the instrument department had sufficient foresight to carry spare thermal systems in stock, so the instrument (a controller) was inoperative only for a matter of hours rather than weeks. The entire mishap could have been avoided if the tubing had been kept off the floor, or if suitable protection in the form of steel plates rather than wood strips had been provided.

A thermometer should never be picked up and carried by its capillary tubing as this can place excessive strain on the soldered joint between the tubing and the actuating spiral. In some cases, such practice causes a small leak, resulting in loss of fill.

When the length of tubing supplied with the instrument is greater than needed, excess tubing should be neatly coiled and hung below the instrument. Under no conditions should a section of tubing be cut out with the idea of splicing the remaining ends together. With an understanding of the basic operating principles of a pressure type thermometer, it is readily apparent that such an attempt would result in a complete loss of fill. In one instance, however, someone lacking this understanding actually cut out a section of capillary tubing and then called an instrument service engineer to find out how to splice the remaining ends together.

Instrument Location Affects Maintenance. Concerning the instrument proper, many phases of maintenance are equally applicable regardless of whether the instrument is an indicator or a recorder, or whether it is measuring temperature, pressure, flow, or any other variable. Here again proper location does much to reduce future maintenance. The first consideration is to mount the instru-

ment where it will be reasonably safe from mechanical damage. In the slasher room, for example, instruments should be placed in locations where they will not be damaged when the operators move the lease rods or doff the slashers. In any batch process, improperly placed instruments are subject to damage during loading or unloading operations.

Protect Instrument Parts From Steam, Liquids, and Corrosive Vapors. Locating instruments so that they will be protected from steam, splashing liquids, and corrosive vapors is another precaution that pays off in reduced maintenance. While most industrial instruments are constructed so that nothing short of complete immersion in water will cause immediate trouble (with a thermometer, even complete immersion will effect only the scale and recording chart) it is obvious that continued exposure to steam, liquids, or corrosive vapors will materially increase the maintenance required either: (1) by necessitating frequent cleaning and lubricating of metal parts; or (2) by causing faulty instrument operation due to rusted or corroded parts.

Where processing conditions are such that the instrument must be located amid unfavorable conditions, it is often helpful to mount it in a protective case. Another protective method frequently used is to pipe a small flow of compressed air to the inside of the instrument case. In this way, the instrument case is continuously maintained under pressure slightly above atmospheric, and no outside air can enter. This continuous purging system is highly recommended when the air surrounding the instrument contains lint, dust, or corrosive vapors.

Calibration Should Be Checked Periodically. Under continued use, a thermal system sometimes develops one or more small cracks almost microscopic in nature. These cracks, which will not be detected during a routine visual inspection, can allow the actuating medium to escape at so low a rate that the instrument will continue to function for a considerable length of time, but will develop an error in calibration which will become larger as time goes on.

Over an extended period of time, the continuous flexing of the actuating spiral as it alternately winds and unwinds can result in metal fatigue which will also affect calibration.

A calibration check is the only means of detecting either of these conditions. This check is accomplished by immersing the bulb in a bath of known temperature, such as crushed ice or boiling water, and observing the instrument reading.

The frequency of these calibration checks depends to a great extent, on whether or not the instrument is a controller, and, if so, on the critical nature of the controlled temperature. The more important the temperature, of course, the more urgent is the need for frequent calibration checks.

Stocking of Spare Parts Minimizes Instrument "Down-Time." The amount of capital involved in keeping on hand a limited number of essential spare parts is usually more than offset by savings in down-time in the event of instrument damage. As previously mentioned, a spare thermal system for every thermometer can prevent the weeks of down-time which would normally result from damage to a bulb or capillary tubing.

It is advisable to stock spare pens for recording instruments since even the best inks exert a corrosive action on the stylus over long periods of time.

While the practice of stocking an adequate number of spare parts is helpful when the instrument is merely indicating or recording, it becomes almost mandatory when the instrument is a controller functioning on a continuous process, for here instrument failure can adversely affect, not only the operation of that stage of the process which the instrument is controlling, but also those phases which precede and follow.

(The second article in this series will appear in an early issue.)

Device Compares Anti-Static Characteristics of Fabrics

For some time, manufacturers of automobile seat cover fabrics have been working toward a product which will not inconvenience the owner of a car by generating electrical charges on a dry day, and cause an electric shock when the ignition key or door handle is touched.

Carpet mills have been searching for a rug construction which can be used safely in hotels, so that a guest is not upset by an electric shock when he signals for an elevator. Anti-static fabrics have long been desired for nurses' uniforms and blankets used in operating rooms, due to the hazard of explosion of anesthetic gases should an electrical discharge occur.

To aid in the development of these static-free products and to provide tools which can measure the comparative anti-static characteristics of new fabrics, a unique and interesting apparatus was recently developed by the United States Testing Company, Inc.

This static testing machine is, in effect, a simple electrostatic generator consisting of a rotating turntable on which any material can be mounted.

A sample of the material to be tested is so mounted that it rubs against the material on the turntable. A metal comb collects the static charge and conveys it to an electrostatic voltmeter, which indicates the magnitude of the charge. Since static discharge is chiefly apparent and most dangerous in a dry atmosphere, this apparatus features a built-in drier of the absorption type. Dry air is then circulated so that relative humidities, as low as 15 to 20 per cent, can be attained in the air-tight test chamber.

Procedure for Obtaining Photographic

The world's largest collection of textile literature is available to mill men through photocopying facilities of the U. S. D. A. Library.

STREAMLINED photocopying facilities of the Library, United States Department of Agriculture, places the world's largest collection of textile literature at the immediate disposition of mill men throughout the country. More than 14,000 book, serial, and periodical titles in the 1,000,000 volume library virtually guarantee the processing of every duplication request.

The card files in the Washington, D. C., branch list all the recognized textile business papers published in the United States and abroad. Russian printings are difficult to obtain, administrators of the library point out. Literature from Great Britain and its Dominions, France, Germany, Italy, the Scandinavias, and a limited number from South America are easily procurable.

Under the supervision of the Bibliofilm Service, photocopying is restricted to the contemporary magazines and books, rare treatises, and out-of-print publications stored in the gigantic labrynths beneath the Department of Agriculture building.

Department of Agriculture Methods. The Bibliofilm Service, United States Department of Agriculture Library, Washington 25, D. C., can actually complete a copying order within five minutes from the moment a request is brought to the card locator desk. Taking advantage of the Army's war-time experience in handling V-mail, the library has purchased surplus continuous processing photographic, developing, printing, and drying equipment. This assures an extremely low-cost operation.

Ordinarily, service is completed in 48 hours. If delays are anticipated, the purchaser is advised before processing begins. The order may then be cancelled at the customer's discretion. More rapid service is visualized by Ernest C. Betts, Jr., administrative officer of the library, when a rapid card selector system devised by atom scientist Dr. Vannevar Bush is installed. Giving instantaneous location of indexed catalog cards, the equipment will cut handling to the minimum.

Every effort is made to identify titles on the order blanks, but occasionally the references cannot be located when the inscribed information about titles or authors

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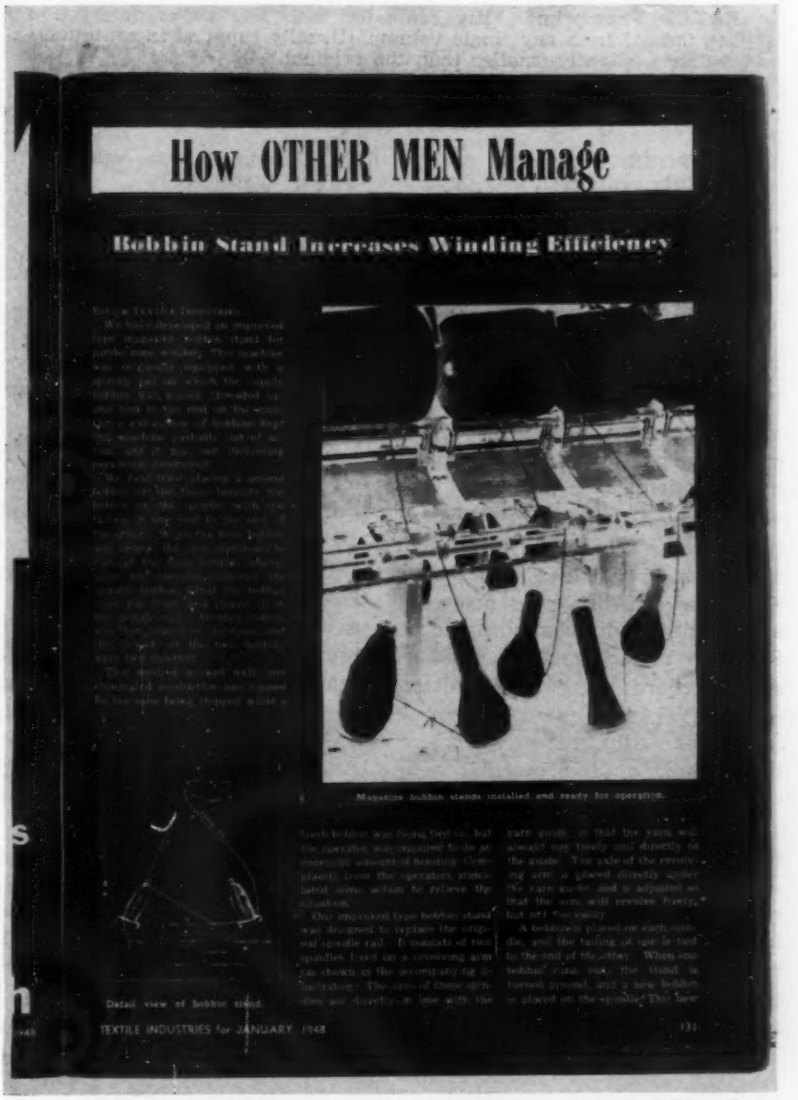
Reproductions of Textile Literature

Staff Prepared

is inadequate. In such cases, a check is conducted by highly skilled specialists who search for clues as a last resort before rejecting the order. About five per cent of the orders necessitate further correspondence.

At times, the called-for publication may have been loaned to a branch library, in Peoria or Atlanta for example, where reading rooms are maintained. Charges slips are consulted. The material is located. Measures are initiated for the recovery of the sought after item. For its very moderate photocopying charge, the library is determined to provide superior service.

Kinds of Duplication. Two essentially different copying techniques are employed for reproducing extracts. Photostats or microfilms can be supplied, each in negative or positive print. Judging from the records, Photostats are definitely more popular with purchasers than microfilms. Microfilms are futile without costly viewing or projection apparatus, although paper enlargements can be produced from them. For long extracts or multiple exposures of many different references in series, and providing the purchaser has the necessary viewing equip-



How OTHER MEN Manage

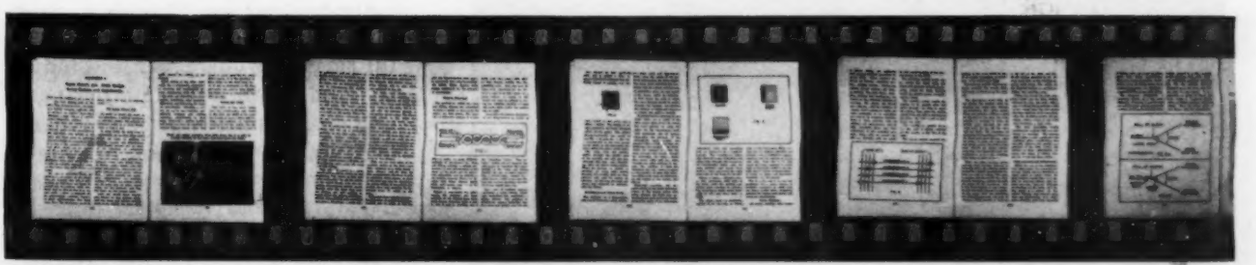
Bobbin Stand Increases Winding Efficiency

Magazine bobbin stands installed and ready for operation.

Detail view of bobbin stand.

TEXTILE INDUSTRIES for JANUARY 1948

THIS NEGATIVE PHOTOPRINT of page 131 of the January 1948 issue of "Textile Industries" is slightly less than one-half the actual size of the Photostat as received from the Department of Agriculture Library. Negative prints are quite satisfactory for direct reading copy; machinery details and illustrations are generally better duplicated on a positive Photostat. The photoprint shown here was ordered on January 25 and received on February 23.



MICROFILM REPRODUCTION is more economical for the copying of long extracts or multiple exposures of many different references in series, provided the necessary viewing equipment is available to the purchaser. Shown here in actual size is a contact print made from a portion of a microfilm reproduction of a book.

BASIC INSTRUCTIONS FOR ORDERING PHOTOCOPYING SERVICE

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COUPONS: Department of Agriculture Library coupons valued at fifty cents each may be ordered in any quantity.

PAYMENT: Enclose cash, library coupon, check or money order drawn to the Treasurer of the United States with order. (Federal agencies are exempt.)

REFUNDS: When the reproductions cannot be supplied, refund will be made by coupon unless cash refund is specifically requested. Refund checks require about six weeks for issuance.

ment, microfilms are decidedly more economical.

Machinery details and illustrations are generally better duplicated on a positive Photostat. Negatives are, however, perfectly acceptable for direct reading copy. For the more exacting requirements where extreme definition is essential and a graduation of tone makes the picture, only a photograph of the original will suffice.

In making Photostats, the library tries to accommodate orders which specify facing pages on single sheets of paper, or provides space for left-hand margins to facilitate binding. Due to the ultra-rapid continuous copying process adapted by the Bibliofilm Service, standardization is the key to inexpensive handling. Therefore, the extent of deviation from standard procedure is limited.

An 11½-inch wide roll of sensitized, semi-matte finish paper is used in the Photostat cameras. The reproduced images are slightly smaller than the original. Each frame of the roll is then cut, and the purchaser may trim superfluous paper from the image to yield a very satisfactory finished product.

Microfilms may be described briefly as a safety film strip reduction of the copied material. Exposures of the text may be achieved page by page, or opening by opening, to form a roll in which the printing is parallel or normal to the strip length. The image is extremely minute. Customarily, small books require a reduction of 10 to 1 while the larger tomes need a 15 to 1 reduction.

One of the well equipped reading rooms at a USDA branch library.

Costs and Ordering Procedure. The library states that Form: Lib. 60 (Rev) 2/15/48, should be used for ordering. A supply of order blanks will be sent to the prospective customer on request. On the back of the blank is printed instructions and conditions for photocopying work.

Payment is made in advance by cash, check, or money order drawn to favor of the Treasurer of the United States, or by specially prepared coupons issued by the Department of Agriculture. Coupons are sold in quantity. Charges for all orders are in multiples of 50 cents, the value of a single coupon. Refunds are made with coupons, except in such rare instances when the purchaser refuses to accept this medium of exchange. In this case, vouchers are drawn for check payment by the Treasury Department. The procedure is costly to the government and time consuming for the purchaser.

The rates for photoprints are 50 cents for each five pages or fraction thereof from any single volume. For microfilming a charge of 50 cents for any article in a single volume, or for 50 pages of books and serial publications, is made. Positive Photostats are figured at the same rate as negatives, but are charged additionally since a negative photostat is prerequisite. Thus, for a set of positive Photostats five pages from one volume would cost one dollar.

Such an inexpensive service has attracted the plaudits of economy-minded scholars everywhere. One individual writes, "I wish to compliment the library for the wonderful services you render the industry, and for the efficient, business-like prominence you show in dealing with people doing research work miles away from a decent library. I used to go 60 miles to New York and return, lost one day plus $25 to obtain information which I can get from you for about one dollar—and then they

say that bureaucracy is expensive. Not in this case!"

Procedure for Processing Requests. The order is given a serial number on receipt and then a Photostat copy is made to provide a duplicate copy for the office file. The original order slip is transmitted to the reference section and a call number is added to correspond with the catalog of the library if the title is in its collection. The processed order slip is delivered to the book shelves where the publication is removed from the stacks and sent with the slip to the copying machines. The order slip is superimposed on the first page of the copy to facilitate identification. However, a second first copy is also made at this time, without the slip.

The publication is returned to the shelves. After developing, processing, inspecting, trimming, and packing, the reproduced material is mailed to the purchaser. The entire process consumes not more than 48 hours.

As an example of the service's

(*Continued on page* 102)

Easy Method for Cleaning Filter Bags

Staff Prepared

EXCLUSIVE

EXPERIENCE with the No. 7 air filter has been satisfactory, according to mills which use this equipment. However, cleaning of the filter bags can become a chore unless some satisfactory method of emptying them is used.

This photograph shows an operative emptying the bag from the No. 7 air filter through a suction device which has proved excellent for the purpose. By using this mill-made device, cleaning the bag is done quickly and with no dust being spread in the vicinity.

All that is necessary is to insert the end of the filter bag into the tube (as shown in the photograph). The suction turns the bag inside-out in short order. Dust which has collected in the filter bag is drawn through the tube and is carried into the dust box, the corner of which may be seen at left in the photograph.

The metal tube as shown is 18" in diameter; its length is slightly over six feet. The length of the tube may vary according to local needs, but it should be at least the length of the filter bag because the bag is turned inside-out within the metal tube.

Suction is secured here by use of a Buffalo Forge No. 6 fan. Note that the home-made dust box is strengthened by wire. A fireproof lining for the box would prevent the spreading of a fire should one occur.

At this plant the filter bags are cleaned by the described method every 8 hours. The dust box is cleaned at the necessary intervals.

Although the bag cleaning device shown here was made by the mill, Saco-Lowell Shops will either make the unit for the mills, or will furnish engineering drawings to the mills so that they may make their own.

Operative emptying bag from the No. 7 air filter. Note that bag is drawn inside the tube by suction, for removal of dust and waste.

Bemis Bro. Bag Co. Installs

Central Station System in Card Room

Uniform relative humidity, improved comfort for operatives, increased regain in material in process listed among results obtained.

Staff Prepared

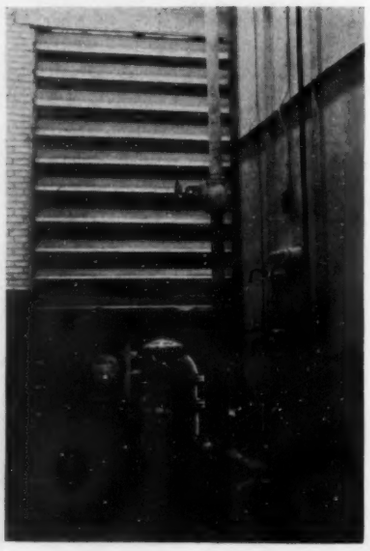
EXCLUSIVE

THE RECENTLY completed central station air conditioning system installed in the card room at the Bemis Bro. Bag Company, Talladega, Ala., is giving the following results:

(1) Uniform relative humidity within the room, irrespective of outdoor conditions.

(2) Reduction of peak temperatures during hot weather, which with circulation of air in the room provides improved comfort for the operatives. No more opening and closing of windows.

(3) Increased regain in material in process due to circulation of air through and around machinery, improved quality due to standard regain and control of conditions, and increased production.

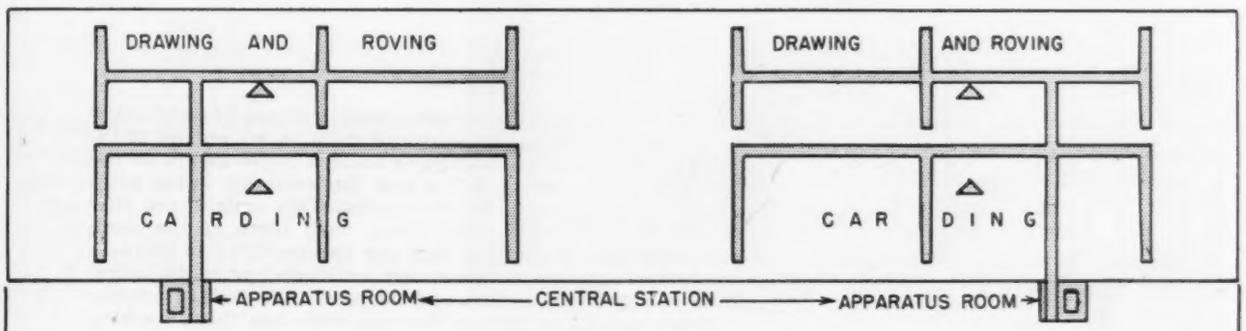


(4) Less dust and fly in the air.

(5) No free moisture in manufacturing areas.

Layout. At Bemis the 300 cards are placed on one side of the room, and the drawing and roving are on the opposite side of the same room. The entire room, 638 x 144 feet, is served by ducts leading from the two central station towers (see accompanying sketch). Four Psychrostats, two in each half of the room, control the atmospheric conditions.

Heaters in the apparatus rooms are used to maintain room tem-



Technical Description of Central Station System at Bemis

Two central station units are located in apparatus rooms. The two apparatus rooms were built especially for this job.

Each central station unit consists of spray type washer, pump with direct-connected motor for circulating spray water, and multi-blade limit load fan, with automatic multi-speed control.

In the walls of the apparatus room and adjacent to the mill wall are installed fresh and recirculating air dampers, complete with pneumatic control mechanism.

Distributing ducts of galvanized steel lead from each tower throughout the entire room and include outlets for adequate distribution of conditioned air.

Automatic exhaust air shutters are installed in windows for releasing air from the room automatically to the extent that fresh air is admitted through the conditioning units. The fresh air inlet opening in each apparatus room is fitted with sheet metal louvers to afford protection from rain.

Psychrostats control temperature and relative humidity in the room, operating on the wet and dry bulb principle.

perature at all times, including week-ends when the central station system is operated automatically at lower speeds. Also, the central station system automatically operates at lower speeds during the winter months, thereby reducing power consumption.

Cleanliness. Before this system was installed, Bemis had the ceilings cleaned once each shift. This cleaning schedule is still maintained, but it now includes the cleaning of the ducts.

Lint which formerly was suspended in the air and which eventually found its way to the machinery, floor, or ceiling, is for the most part now collected on screens which filter the air passing from the card room to the central station towers, or is forced outside through exhaust shutters. This screen is cleaned on a regular cycle to prevent its clogging.

Circulating air in a card room must be done carefully to prevent breaking of the web. At Bemis, where one of the principal products is osnaburgs, considerable study was given to air circulation and its relation to the web. Satisfactory performance was accomplished.

The entire system was designed and installed by Parks-Cramer Company.

Term "Air Conditioning" Originated in Textile Industry

The term "air conditioning" originated in the textile industry. Its first formal use was by Stuart W. Cramer in an address before the American Cotton Manufacturers Association on May 10, 1906. The term "air conditioning" as used by Mr. Cramer and as given to the textile industry included humidifying and air cleansing, and heating and ventilation.

Also, from Webster's Dictionary, Fifth Edition: *air conditioning. A process of washing, humidifying, and dehumidifying air before it enters a room, hall, building, etc.*

The public's general acceptance of the term "air conditioning" to be synonomous with the term "refrigeration" is erroneous. Where the term "air conditioning" is used to describe a mill installation, this is understood to be the term as it was originally given to the industry, and does not necessarily indicate that "refrigeration" is part of the system. Where "refrigeration" is installed, this is clearly stated in the article.—Eds.

Modern Principles of Lighting

DURING the past two decades many changes have affected the application of light and color in all phases of industry. Industrial leaders have become more aware of the importance of good lighting and the aesthetic value associated with the symbolism of color. This article, the first of two on light and color, deals with some of the modern principles of lighting that can be employed to increase production, reduce seconds and accidents, promote initiative, improve cleanliness and neatness, and induce greater contentment of employees through more healthful working conditions. The next article will be on the modern principle and application of color in industry.

MODERN production methods in the mills and factories have developed a comparatively new field in the application of light and color. The obsolete light intensity standard on a scale of ten foot candles has been superseded by the criterion of higher minimum requirements in foot candle intensities and higher efficiencies.

Industry in general has become aware of the fact that proper lighting conditions will provide greater accuracy in workmanship, increase production for the same labor cost, reduce accidents, insure less eye strain, decrease spoilage of product, provide better working and living conditions, induce greater contentment of employees, provide more order, cleanliness, and neatness in the plant, promote initiative, incentive, and action, provide conditions for better health, and provide easier supervision of the employees.

Just a few years ago it was assumed that ten foot candles of light intensity were sufficient for most industrial operations. Now it is known that the minimum requirement for any operation requiring extensive use of the eyes should not be less than approximately thirty-five foot candles. The modern trend has been to give more and more illumination and to approach the quality of daylight lighting.

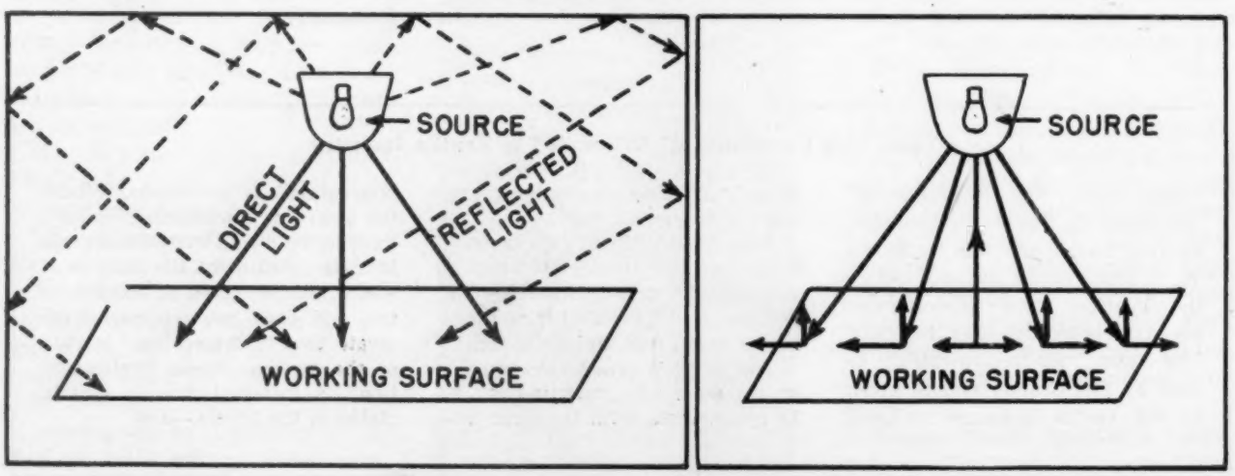
Within the past decade much research has been done to increase the luminous efficiency of a lighting source. One improvement is the gaseous discharge tube supplemented by fluorescent material in the glass envelope. These advances have developed better concepts and standards of interior artificial illumination. Not only is there produced a more suitable intensity of light with less glare, but the lighting has taken on more artistic and decorative effects, thereby harmonizing better with the architecture, furnishings, and other equipment.

Some Fundamentals of Illumination. Modern lighting by electricity utilizes three fundamental types of fixtures: direct, semi-direct, and totally indirect. These are varied and supplemented by panel, cove, column, pilaster, beam, niches and coffers, spotlights, and downlights.

There are two fundamental methods used for predetermining the illumination that is to be produced by any given lighting installation: the "Point by Point" and the "Flux of Light" methods.

The Point by Point method may be used for determining the illumination at specific points from a direct source of light; the uniformity of distribution of light flux given out by the source; for the comparison of several sources; or

Left, the "Modified Flux of Light Method" for lighting calculations, depends upon the relation existing between the type or quality of the source of light and the properties of the surface upon which the light flux falls. This method takes into account the amount of light flux reaching or incident upon a surface and the total net light flux of light from both the source and reflected light from the surfaces. Right, "Point by Point" method includes only the incident light flux falling at a given point on a surface and does not involve any properties of the surface which concerns the reflection of light flux from the surface.



By F. W. LANCASTER

for approximately determining the location and required number of lights for a given installation.

The Flux of Light method is based on the assumption that, under similar conditions as to the type of lamp, luminaire, color of walls and ceilings, size of room, and type of work, the lumens of light falling on the working plane will be a definite percentage of the total light emitted by the source.

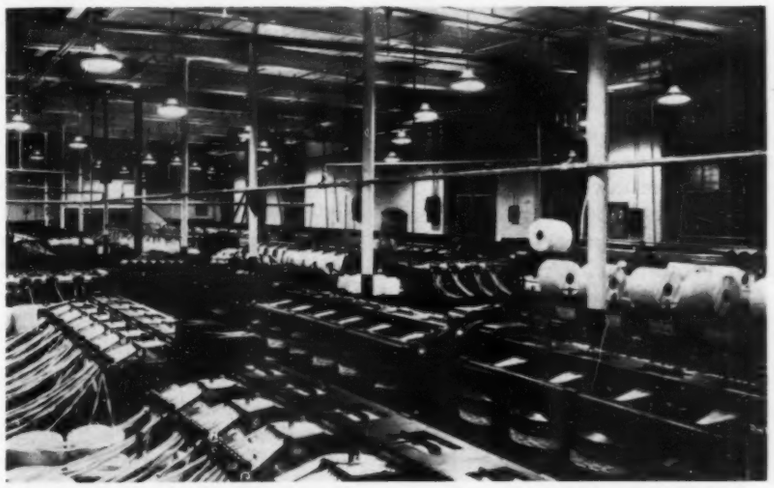
For simplicity of calculation, the illuminating engineers have developed a system of curves and graphs based upon the preceding factors to show directly the relation of the watts per square foot of floor area to the foot candles of illumination required for different classes of luminaires, grades of color of walls and ceilings, and the luminous intensity demanded for various operations. This modified Flux of Light method involves two cases; one for direct lighting in which reflecting units are used, the other for indirect lighting in which diffused light is employed. Where possible the latter case of diffused lighting should be used in order to avoid glare and too much contrast with surroundings.

The data graphs are based upon tungsten lamps; however the present trend of lighting includes the application of fluorescent lights. Fluorescent lamps (40-watt) give approximately four times the light intensity as the same wattage tungsten lights.

[*Ed. Note: The efficiency of incandescent lamps, in terms of initial lumens per watt, increases as the wattage increases. With relatively few exceptions, fluorescent lamps are supplied in groups of* 40-*watt units. Comparing a group of eight fluorescent tubes of* 40 *watts each with a single incandescent light of* 300 *watts, the fluorescent group gives approximately two and one half times the light intensity of the incandescent bulb.*]

In designing a new lighting system or redesigning an old system,

Lighting as practiced at the turn of the century; bare lamps suspended from the ceiling on drop cords. Note harsh shadows and direct glare that make seeing difficult. The low-hanging drop cords also interfere with rearrangement of machinery.



World War I lighting practice for textile mills; 200-watt tungsten filament lamps enclosed in a metallic reflector to reduce direct glare and mounted at least 10 feet above the floor to more uniformly distribute the light, thereby softening the shadows.

Modern lighting practice for textile mills; two-lamp 40-watt fluorescent units, mounted four per 25-foot bay, produce an average maintenance intensity of 30 foot-candles. The fixtures are mounted 12′ 6″ above the floor level.

Indirect | Semi-Indirect | General Diffuse

all calculations can be made on the basis of tungsten lighting in order to determine the necessary distribution and wattage. After the calculations have been made, each light position can be equipped with fluorescent units of the same wattage.

In this discussion it is assumed that the fundamental principles of light or the light processes upon which the properties of illumination are based are familiar to the engineer, designer, or colorist: namely, the laws of reflection, selective absorption and reflection, selective absorption and transmission, refraction, diffraction, dispersion, diffusion, interference, polarization, and spectra. Without a knowledge of these basic concepts, the properties of materials and the interaction of light to produce color effects would have little meaning to the designer.

For proper illumination, the selection of the luminaire depends upon the purpose for which it is to function. All luminaires are designed for a given function; to scatter or diffuse light from a direct source by regular reflection; to increase diffusion and reduce dense shadows; to promote artistic effects; to alter the quality of light in the case of photography, color matching, or displays; to reduce intense brilliancy; to reduce glare; and to protect the light source.

The foregoing functions should be considered in the selection of luminaires. In addition, the efficiency, depreciation, and cost of the luminaire are important considerations. They should be selected for definite working conditions without overlooking distribution requirements, type of material, type and size of room, color of the walls and ceilings, quality of the light source, and foot candle intensity requirements for a given operation.

For example, in the design of textile fabrics and materials, the weave of the materials is important regarding the relation of the fibers with respect to the direction of the incident light, the quality of the incident light, the type of the reflecting surface—that is, whether multiple reflection will take place producing the selective color of the fiber or pigment, or whether most of the reflected light will approach white light by the scattering properties of the surface. The entire procedure will account for some of the changeable colors produced in certain fabrics as the angle of incidence of the incident light changes, and as the relation between fiber direction and size and the light direction varies.

The structure of the fiber itself, whether it is round or flat, twisted or straight, smooth or glossy, transparent, translucent, or opaque, coarse or fine, has much to do with the interaction of the incident light and the type of light reflected from the material with its corresponding color aspects.

Properties of Surfaces. The problem of illumination in factories, offices, homes, art gallaries, or in general, has necessitated the study of the properties of surfaces. Two of these important properties are brightness and glare. For good lighting conditions, factors should be such as to avoid glare, objectionable shadows, and extreme contrasts. Any exposed source of light may produce glare. Any brightness within the field of vision of the eye to produce discomfort, annoyance, interference of vision, blurring, or eye fatigue is characterized as glare.

The factors involving glare are generally the brightness of the source per unit area, the total volume of light, the location in the field of view, the contrast of the surroundings with sudden operational changes in the focusing of the eye, and the exposure time. Brightness and glare may be produced by any one of the several basic properties of light. As illustrations, everyone has witnessed the glare of light from automobile windshields or building windows, or from glossy furniture, polished metals, wet streets, show windows, and glossy paper. This property is brightness by reflection.

When reading a paper held facing the light, there results brightness by transmission of light and contrast of surroundings.

The scattering of light by small particles may be seen through smoke, dust, and fog. Dirty windshields also give brightness by diffusion.

Looking at or through finely scratched or ruled surfaces, or through small holes toward a light source produces brightness by diffraction.

Examining a light source through a lens gives brightness by refraction.

Analyzing a sugar solution or dye solution by means of a polarimeter includes observation of brightness by polarization.

If a light source is examined through a prism, one obtains brightness by refraction and dispersion.

Sufficient general illumination is necessary in all parts of the room with the illuminants so placed and distributed to eliminate glare. There must be no great contrast between objects in the room and the working surfaces. The illuminants should be of such size and so placed as to produce consider-

Direct-Indirect | Semi-Direct | Direct

able diffusion and to avoid objectionable shadows; although soft shadows are desirable for contrast. The light emitted from the luminaire should be of such quality or possess the proper region of wave lengths to give the desired color to objects.

Improper wave length regions produced by specific types of lamps (such as the mercury arc, formerly prevalent in textile plants, and certain types of fluorescent lamps) should never be used in general lighting or for specific operations such as color matching. All luminaires possessing specific selective wave length regions either on the short or long wave length side of the visible spectrum produce bad psychological effects upon the worker.

Effect of Background. The effect of the background is frequently neglected in planning a lighting installation. For close inspection or prolonged visual effort, the background should in general be darker than the object worked upon. A proper degree of brightness contrast is always necessary for comfortable vision, for without this brightness contrast a flat field of view is present which renders it extremely difficult for the eyes to focus both at work and at rest.

In designing a plant, lay out all operations as a continuous production assembly from the receiving room of raw materials to the shipping room of the finished product. Design the lay out of all machines in their continuous, relative, and coordinated operational positions. Then erect the building around this plan, and the luminaire or lighting system can be designed properly to throw the light exactly where it is needed with respect to the machines and the operators.

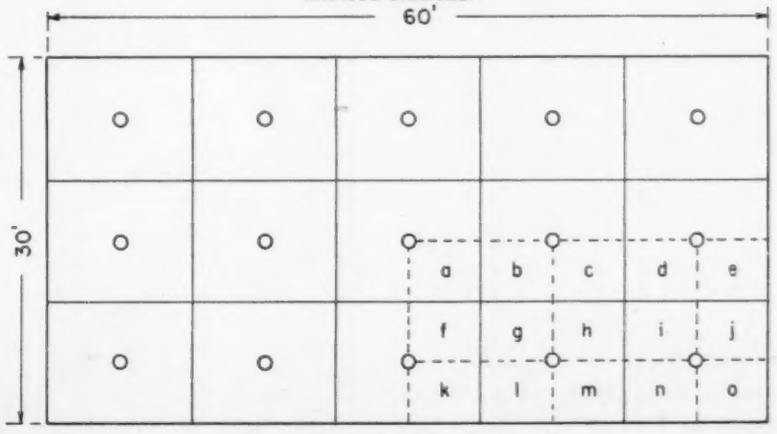
The general structural features of the interior should be carefully designed with regard to the efficiency of operation, physical aids to the operator, aesthetic appeal of the operational surroundings, color schemes of the moving and nonmoving parts of the machines, colors of the ceilings, walls, and floors, safety colors and traffic lanes, air conditioning, and dust control—everything possible for increasing the safety, attractiveness, comfort, health, incentiveness, and efficiency of the operator.

Laboratory. Every modern plant should possess a research department with well trained personnel and with adequate equipment for research operations. For the purpose of proper illumination checks and color determinations, each research department should possess a good color spectrometer (preferably the photoelectric type), a photometer, illuminometer, polarimeter, half tone photometer, glarimeter, and diffusometer. In addition, if it happens to be a textile plant, or any plant in which color is a prime function, there should be a good system of color charts based upon a standardized color scale.

The aforementioned instruments are necessary for quality control in which periodic illumination surveys are to be conducted to check proper lighting, to insure reproduction of color matching, and to aid in the proper selection of color combinations for harmonious designs of finished products.

Illumination Surveys. Foot candle measurements are made by holding an illuminometer at an imaginary plane three feet above the floor (in mills and factories) or thirty inches above the floor in offices. In making tests, the total area of the space is divided into a number of equal symmetrical sections, and the intensity is measured at the center of each section. If the room is very large and the lighting units symmetrically distributed, it is sufficient to measure in a number of equal sections of a portion of the total area. The average

In a mill room 30 x 60 feet, with 15 lamps arranged five lamps per row of three rows, illumination measurements can be taken by selecting a quarter of the room and dividing it into 15 sections marked a, b, c, etc. Measurements can be made at each of the lettered stations.



of the readings taken over this portion will be the average intensity over the total area, providing the readings were measured in a horizontal direction.

The total flux in lumens arriving on the given area is equal to the product of the average horizontal intensity in foot candles by the total area in square feet.

In factories and mills, especially textile mills, the arrangement of large machines or groups of smaller machines, such as looms, cards, fly frames, etc., will require what is known as group lighting; that is, the lighting units are located with respect to the machines rather than to the structural features of the room.

(The next article will begin a discussion of color standards for universal use.)

Photographic Reproductions

(*Continued from page* 95)

efficiency, even the typing required for mailing to the return address is avoided. The portion of the order slip containing purchaser's mailing directions is cut off and pasted to the mailing envelope. The remainder of the coupon is returned to the offices for filing and accounting. By comparing the original order slip with the photostated slip in the office, a quick glance determines whether the order has been completed.

Additional Service. Textile concerns and individuals, who are members of the American Chemical Society, may arrange for a special service which provides for inter-laboratory searches and borrowing of books on non-agricultural subjects from other organizations. The Society has an agreement with the library which authorizes the extra facilities. Alden H. Emery, executive secretary of the Society, claims that 95.8 per cent of its many thousands of orders are filled. Detailed information may be secured by writing to the American Chemical Society, 1155 Sixteenth Street, N. W., Washington 6, D. C.

The Army Medical Library, the Library of Congress, and the Patent Office of the Department of Commerce also maintain duplication plants. However, the Department of Agriculture is the sole agency whose catalog specializes in textile literature by virtue of its active participation in this field of the national economy.

A more expensive photocopying service is available at the Photographic Service Division, New York Public Library, Fifth Avenue and 42nd Street, New York 18 N. Y. Here particular attention is directed to "specification" orders for odd-sized reproductions, quality duplications, lay-outs, and photographing material for commercial reproduction (rotogravure lithography, etc.)

Editorially Endorsed. Even with TEXTILE INDUSTRIES' editors and administrative personnel often computing the number of reprints needed for an article, and then adding a good deal more as a safety factor, some articles achieve an unexpected degree of popularity. The demand for reprints far exceeds the supply on these occasions. The agricultural library offers the next best source, as the following excerpt from one letter attests:

"It is a pleasure for us to know that we can turn to the library and receive complete satisfaction. You are doing the scholars of the nation a great service in supplying this material."

For the information of those desiring reproductions of articles published in TEXTILE INDUSTRIES (formerly "Cotton"), the Department of Agriculture Library file begins with Volume 8, April 1905.

At the New York Public Library, the file begins with Volume 77, November 1912.

Southern mill men may be interested in knowing that photoprint service is also available from the Georgia Institute of Technology Library at the rate of 25 cents per page. The file of TEXTILE INDUSTRIES at this library begins with Volume 94 (1930).

Building named in honor of the late W. Harrison Hightower of Thomaston, Ga., who was instrumental in starting the Textile Education Foundation, Inc., in Georgia.

Ga. Tech's

CELEBRATION of the 50th anniversary of the A. French Textile School of the Georgia Institute of Technology and the opening ceremonies of the Harrison Hightower Textile Engineering Building were held in Atlanta on October 14.

Guided tours through the building, an informal luncheon in Brittain Dining Hall on the campus, opening of the building and dedication of the Harrison Hightower plaque, a reception and tea by Col. and Mrs. Blake R. Van Leer at the President's home, and a banquet at the Biltmore Hotel were the highlights of the day's activities which were planned to fully acquaint visitors with the new facilities of the school.

The building is modern in every respect as can be seen by examining the photos at the right. Across the top of the page is an exterior view of the structure: classrooms are located across the front (note plate glass enclosure to provide sidelighting); a comfortably appointed auditorium joins the building and is shown at the extreme right.

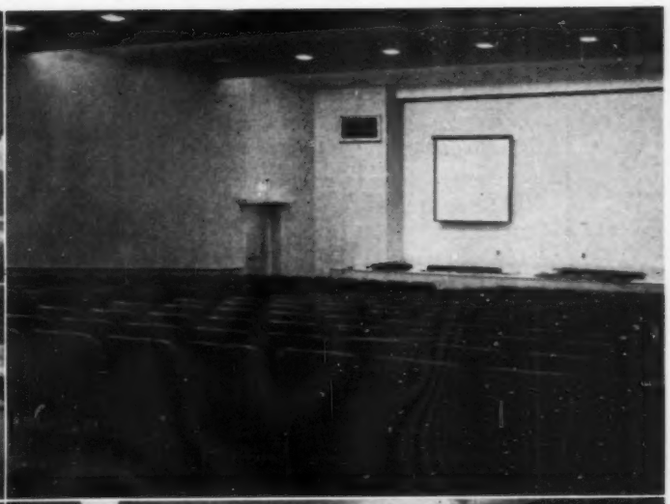
Interior views: upper left, foyer on first floor; upper right, auditorium; center, left, typical class room; center, right, library; bottom, left, woolen card in wool yarn preparation laboratory; bottom, right, wet processing laboratory.

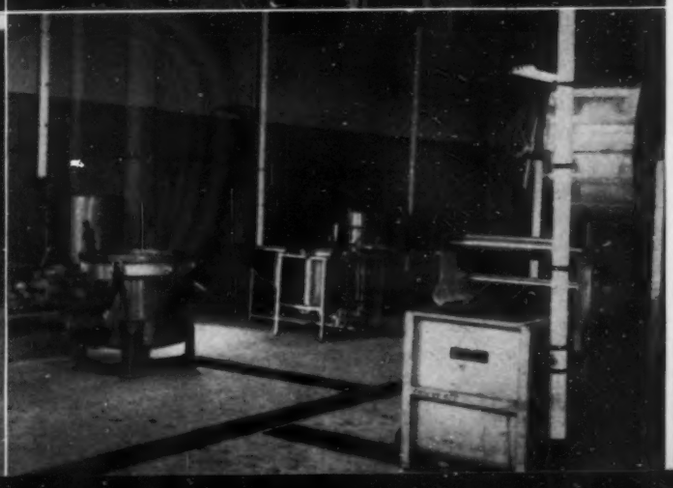
Located at Fourth Street and Atlantic Drive on the Tech campus, the new building and its equipment are valued at $1,750,000. The $1,025,000 building was provided by the State of Georgia. Funds for the purchase of new equipment for the building were collected by The Textile Education Foundation, Inc., an organization which has done much for textile education in Georgia.

A maximum of 500 students can be accommodated in the new school.

"Textile Industries" staff photos

New Textile Engineering Building





Pointers on Running Irrigated Cotton

(Compiled from actual operating experience)

Characteristics	Mixing and Opening	Picking	Carding	Drawing	Humidity
Average to very fine fibers — White — Has tendency to nep — May be sticky if subjected to humid atmospheres — High Strength — Dry — Brittle — Fluffy	Bales should be tested for fineness and extra fines blended with average fibers or One bale of rain grown cotton used to every two bales of irrigated — As much opening machinery as possible should be eliminated to avoid formation of neps — Speeds should be reduced	Beater speeds on pickers should be reduced as low as possible to still obtain sufficient cleaning — Lags on Kirschner beaters should be replaced with bullet nose lags — Every effort should be made to see that picking is as gentle as possible and that a fluffy lap is produced	Reverse card settings so that largest opening between cylinder and flats is at front instead of at back. 9 at back to 12 at front is recommended — Check percentage plate to be sure flats always collect 13 grains per flat — Speed up flats to 6 in. per min. — Reduce cylinder speed if necessary	Slightly longer roll settings seem to work best — Long draft is recommended	A humidity of 40%-50% is best for carding; and 60% for spinning — If stickiness is observed, reduce humidity and ease the conditioning

A Survey of Mill Methods of Running

Irrigated Cotton

Staff Prepared

Processing methods vary from mill to mill. All suggestions offered are worth trying.

UNTIL a few years ago, the chief advantage of irrigated cotton was its cheapness. Mills considered it hard to run and in most ways inferior to delta and uplands cotton, and only those mills willing to put up with its bad running qualities in the face of its lower price were using it at all.

In 1939, it was possible to buy irrigated California cotton and have it delivered to a Carolina mill for as much as $15.00 a bale cheaper than rain grown cotton. In at least one instance this savings meant the difference between profit and loss for the mill. The superintendent learned how to run the irrigated cotton and get a good yarn. The lower cost per bale put the mill in the black when it had been in the red for a long time. The superintendent who learned how to run the irrigated cotton got full credit, as well he should have, for saving the mill.

There is not such a wide price differential between irrigated and other cottons today. Though there is still some slight price advantage, it is not enough to encourage a mill to go to it for that reason alone. However, during the past ten years many cotton strains grown with irrigation have been vastly improved, and the last few years' crops have many advantages in fiber characteristics which, for some mills, would make their use advantageous even with no price differential.

Characteristics. Government and private laboratories and mill men who have had experience with the irrigated cottons of the past few years agree that it is, generally speaking, dryer, whiter, finer, and stronger than rain grown cotton of equal grade and staple length. Most mills also add that it has a characteristic which they call "brittleness" which is attributed to unusually thin fiber walls. These characteristics of fineness and brittleness make it act more like a synthetic than coarser cottons.

The extra whiteness of this cotton is, no doubt, partially due to its not having been beaten about by rain or having the lower bolls driven into mud by wind and rain. Fine yarn mills in particular have found this extra whiteness an advantage both for knitting and thread yarns. Purchasers of the yarn like the clean, white look.

The dryness of irrigated cotton is both an advantage and a disadvantage. In purchasing it the mill will find that a bale contains as much as 2% less moisture and therefore more cotton for the money. On the other hand, this dryness hinders the free running of the cotton and is a major complaint in some mills. Dryness combined with brittleness is thought to be a cause of much fiber breakage all the way from the picker through the drawing rolls.

Most irrigated cotton ranges in fineness from average to very fine. It is rare to find a sample that is coarse. This is an advantage so far as the finished yarn is concerned if the appearance of the yarn is otherwise up to standard. The knitting trade likes the fluffy feeling of the very fine fibers. It would also seem that this fineness partially accounts for the high strength of irrigated cotton. Strength tests show that yarns of irrigated are seldom below test standards and usually well above. Some of this strength, mill men feel, comes from the fiber itself, but most of it is a result of its extreme fineness.

Fiber fineness is by no means an unmixed blessing. Fine fibers are hard to run. This is not only true of irrigated cotton but of any fine fiber cotton. Irrigated cotton has merely got most of the blame because fineness seems to be its outstanding characteristic.

More Neps. Fine fibers nep more easily than do coarse. Therein lies the greatest complaint of the mills against irrigated cotton. It is hard to run without getting an excessive number of neps which tends to give the yarn a low appearance designation. In fact, it is the carryover of neps and clumps of fiber into the yarn that accounts for the poor appearance of much yarn from this cotton. Were it not for these neps, the yarn would grade very high.

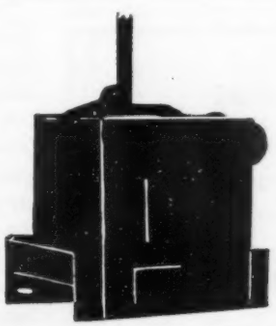
Fine fibers also have a tendency to cling to small foreign particles more freely than coarse fibers. Close inspection of neps in yarn from irrigated cotton indicates that they are not all true neps but are often a bunch of fibers clinging to a small piece of seed hull or leaf. One mill superintendent expressed the idea that these were bearded motes resulting from too close sawing by the gin.

Other mill men thought it likely they were simply pepper leaf or other small sharp particles to which the very fine fibers had clung to form a bunch. Had the fibers been coarser, they would not have attached themselves to the impurity. Either or both of these theories may be correct. In any event, one of the foremost problems of the mills running irrigated or other fine fiber cotton is in the elimination of neps or their first cousins.

Other Objections. There have been other complaints, some serious and some slight, some frequent and some rare. Many mills have complained of a tendency to lap on the roll. One mill man stated that every time this cotton lapped, he examined it and found that it was not the fibers themselves that had started the lap but once again the guilty little black speck of seed. Here it was concluded that this little seed speck was gummy or sticky and adhered to the roll. It then collected fibers to it and formed a lap. It was suggested that this type of thing might be happening all the time with coarse cottons, but the cotton would pull the seed speck off the roll rather than adhere to it.

Besides the two common complaints of neppiness and a tendency to lap on the rolls, a rarer complaint was encountered in two of the mills visited. These mills found that on occasions conditioned yarn or yarn run with high humidity would not unwind from cones without stopping knitting machines or breaking. There seemed to be some sort of paste formed within the cone which matted the fibers and threads together.

Two explanations were offered for this condition. One mill thought that conditioning or high humidity fused certain of the waxes, gums or pectins in the fiber walls, and these formed the adhesive. The other mill blamed the condition on



(Irrigated Cotton)

Processing Pointer No. 1: Blending

Blend extremely fine fiber with coarser bales: or blend irrigated cotton with rain grown cotton.

(Irrigated Cotton)

Processing Pointer No. 2: Picking

Reduce beater speeds. Use bullet-nose lags. Produce a fluffy lap.

a type of oil being used at the gins running irrigated cotton. It is certainly true that some gins are using an oil to get a good lay of fibers, and this oil is not the type used in mills. It may be the source of this trouble.

MILL SURVEY

In contacting mills running irrigated cotton and in studying their methods, it was found that wide variance existed in running procedure. Further study indicated that there are three principal schools of thought concerning the best way to get good quality yarn from irrigated cotton. Manufacturing methods in the mills visited varied, but it was found that each could be relegated to one of the three groups. The truth is, proponents of each group could learn something from the other two. A mill just starting on irrigated cotton could learn from all three.

Mill Group A

This group, made up of small to medium size mills, runs irrigated cotton blended with rain grown cotton for the manufacture of both thread and knitting yarns. All of these mills are combed yarn mills.

Opening. Recognizing that it is possible to get too many fine fibers into a run of all irrigated cotton, three bales of irrigated are blended with two bales of rain grown cotton in the opening room. These mills add oil to cotton at the picker. They claim much better running qualities if oil is used. There is less fly; the oil seems to soften the cotton, overcome the brittleness; and it generally aids in obtaining a better lap.

These mills use vertical openers and one-process pickers in their opening rooms. Speed of beaters is about 1000 rpm. Standard lags on Kirschner beaters have been replaced by bullet nose lags, which are easier in their beating action.

The replacement of standard lags with bullet nose lags is designed to reduce the nep count. Neps are caused, it is rather generally agreed, by overbeating of the fibers, and it is easier to overbeat fine fibers than coarse. A considerable reduction in the number of neps is noted when gentler opening equipment is used.

Carding. No radical differences have been noted by these mills in the carding qualities of irrigated cotton. Card settings are close to standard, but the tendency seemed to be toward slightly closer setting of flats to cylinder. Flats are run at 3 inches per minute. No change has been made in cylinder or doffer speeds. Humidity in the card room is maintained close to 40%.

Drawing. These mills use long draft drawing, and setting of rolls is just slightly wider than for rain grown cotton of the same staple. It is claimed that these wider roll settings are needed to avoid breakage of fibers in drawing. This also avoids the formation of neps. Humidity is maintained as close to 40% as possible. On damp summer days when such a low relative humidity cannot be maintained, there is a tendency for the cotton to lap on the rolls more frequently than on dryer days when humidity is mechanically controlled.

Further Processing. None of this group of mills has noted any unusual difficulty in spinning, twisting, or further processing of irrigated cotton other than the well known trouble encountered in dyeing any yarns containing a large number of neps. However, these mills are able to keep the nep count reasonably low as a whole.

Mill Group B.

Mills in this group include manufacturers of combed thread and knitting yarns and one manufacturer of cotton tire cord. This group, having in it several mills with good laboratory facilities, has done considerable experimental work. Their methods are more radical in some respects.

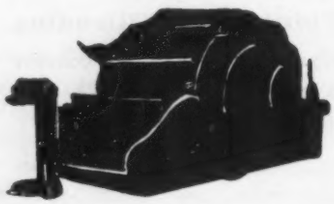
Opening. These mills also find it necessary to blend irrigated cotton with rain grown cotton to avoid too much fineness. Their opening room equipment is very similar to that in Group A mills, but they have not only substituted bullet nose lags for the standard lags on Kirschner beaters, but have also reduced the number of beats per inch. About 950 rpm is average for the speed of the finisher beater.

These mills do not use oil on their cotton, and they claim that they have good reason for not using it. As was brought out at the Spinner-Breeder meeting in Charlotte, this year, some of the gins on irrigated cotton are adding an oil at the gin. This oil, according to these mills, does not blend with the oil sprayed on cotton at the mill, and it causes lapping at the rolls and the formation of a

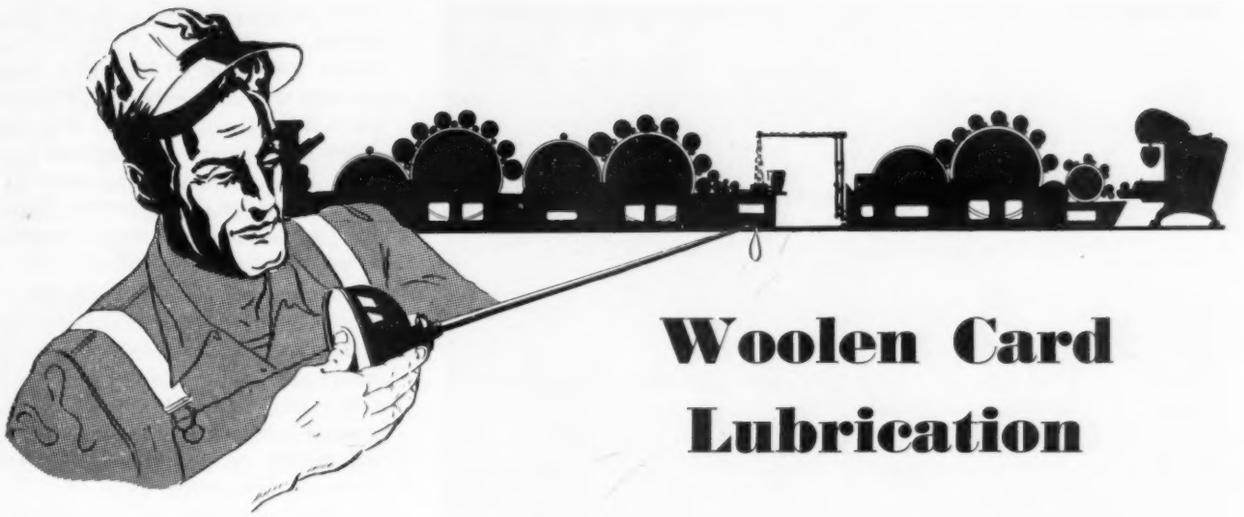
(*Continued on page* 186)

(Irrigated Cotton)

Processing Pointer No. 3: Carding



Set flats at back .009; front, .012. Get 13 grains per flat. Speed flats if necessary, 3 to 6 inches per minute. Humidity, 40-50%.



Woolen Card Lubrication

——By WILLIAM J. CROFTS——

EXCLUSIVE

THE RESULTS obtained from highly developed machinery of close tolerances, and from satisfactory service in operation are very largely dependent upon proper lubrication. This means using reliable oils and greases and regularity in application.—Whitin Machine Works.

THE FRICTION produced by metal-to-metal contact is destructive to machinery and wastes power. On *one* four-cylinder set of woolen cards equipped with intermediate broad band feed and a four-bank, single rub, tape condenser there are over 350 bearings where this metal-to-metal contact will take place unless a systematic method of lubrication is employed.

The writer on three different occasions has taken charge of woolen card rooms where down time was excessive, and quite often he has served as a trouble shooter in card rooms with production problems. In the majority of these mills it was found that most of the lost time was traceable to "dry bearings" that "froze," breaking gears and castings.

There were inaccurate welds on many castings of such design and shape and carrying two bearings that any slight misalignment when welded made these connect improperly with gearing and other parts. By initiating a thorough and complete oiling system, rewelding faulty castings, and where necessary replacing parts damaged originally from lack of oil, the lost time gradually decreased to normal.

Bearings Classified. Generally speaking, bearings on the woolen card may be classified as follows: the high speed, heavy duty bearings; slow speed bearings; and the "hard-to-get-at" bearings. As a rule the high speed bearings get plenty of attention, it being obvious to all concerned that these need frequent oiling. The slow speed and inaccessible bearings are the ones that require the attention of the overseer, and it is good management on his part to insist on the daily oiling of these bearings.

It is just human nature that when an operator is told that certain slow speed journals need not be oiled except at weekly intervals, he may let these go indefinitely; yet these bearings will freeze as tight as any others.

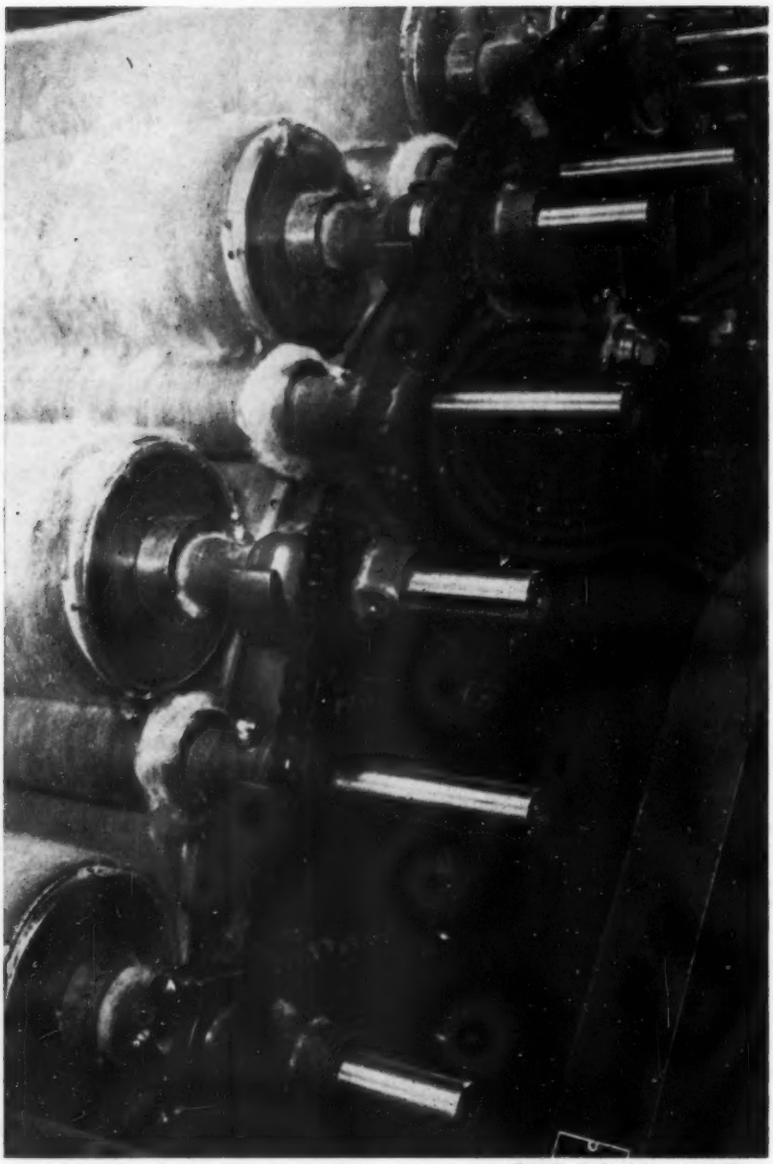
Organization for Oiling. The organization for oiling varies with the size of the room and the conditions prevailing in the room. In an eight-set room, for example, stripping is not always a full time job; therefore, the responsibility for oiling can be delegated to these employees. The cards should be divided equally among them and each one should be held responsible for the condition of the bearings on his machines.

In larger card rooms, however, oiling is a full-time job for one man. The responsibility of oiling should never be divided among several operatives; this arrangement invites and encourages buck-passing when trouble develops.

Regardless of the organization employed the oilers should be carefully instructed and told that they will be held responsible for overheated bearings. Of course, bearings overheating due to tight belts or other improper adjustments should not be charged to the oiler.

Oilers should be men of settled habits. Middle-aged family men and the physically handicapped give excellent service.

Instructing Oilers. As oil in the bearings becomes contaminated with dirt and lint, a thick, greasy sludge forms and often works up into the oil holes. This sludge plugs the opening tightly with the result that new oil does not get to the working part of the bearing. If the oilers are not specifically instructed to clean these holes out when necessary, they will go on daily oiling lint-packed oil



Textile Industries staff photo

On this woolen card, bearings on workers and strippers are provided with easily accessible zerk grease fittings to deliver lubricant where needed.

holes. An ordinary nut pick is a satisfactory tool for cleaning oil holes, and this or a similar tool should be supplied to every oiler and fixer.

Oilers should also be instructed to report immediately any bearings that feel too warm. Cylinder bearings should feel cool to the hand, and any slight warmth indicates faulty lubrication. The oiler should be provided with a special oil can filled with kerosene oil for the purpose of washing out those bearings where oil or grease has formed a hard, gummy substance that prevents the even distribution of oil over the bearing surface.

Pump-type oil cans are very satisfactory for the lubrication of woolen cards. A pint or quart can fitted with a handle for ease of handling and a 14-inch spout set at an angle of 45 degrees is very convenient.

A ball point on the spout fits into countersunk oil holes, preventing oil from spilling out at the sides of the oil holes. Also, where necessary, oil can be forced under pressure into the bearings. The long spout enables the oiler to reach out of the way bearings with less personal risk.

Oil forms a film between the steel shaft and its bearing; the chief function of this film is to reduce friction and consequent wear of the metal to the absolute minimum. Oil should be of a good quality and not too heavy. A heavy oil will not readily seep into the close-fitting card bearings to provide a lubricating film over the entire contact surface. Also, gummy deposits form more quickly when using a heavy oil.

A medium oil (comparable in viscosity to SAE-20* crankcase oil) is most generally used; some mill men prefer a lighter oil while others use a heavier oil. There are special lubricants for parts such as the doffer comb box; these serve their purpose very well.

Cylinder Bearings. A 60″ x 60″ iron cylinder weighs about two tons; therefore, special attention is given to cylinder bearings by the card builder. A worn-out cylinder bearing is a major breakdown which may cause the machine to be out of production for several shifts. A worn cylinder bearing causes the cylinder to drop down, permitting the points of its clothing to sink into the card wire of all rolls below the center of the cylinder with damaging results to the expensive clothing.

A large number of woolen cards in place at present are equipped with cold rolled steel cylinder shafts with renewable split bearings encased in a roomy housing, the bottom half of which acts as an oil reservoir. Two oil rings carry oil up to the shaft bearing in a continuous stream.

At each end of the lower half of the split bearing is a wedge-shaped ear designed to hug the shaft, catch any surplus oil working out of the bearing, and return that oil to the reservoir. These bearings work nicely, but if for any reason the shaft becomes slightly worn, the wedge-shaped oil catchers do not function properly and oil works along the shafting outside of housing and drops on the floor.

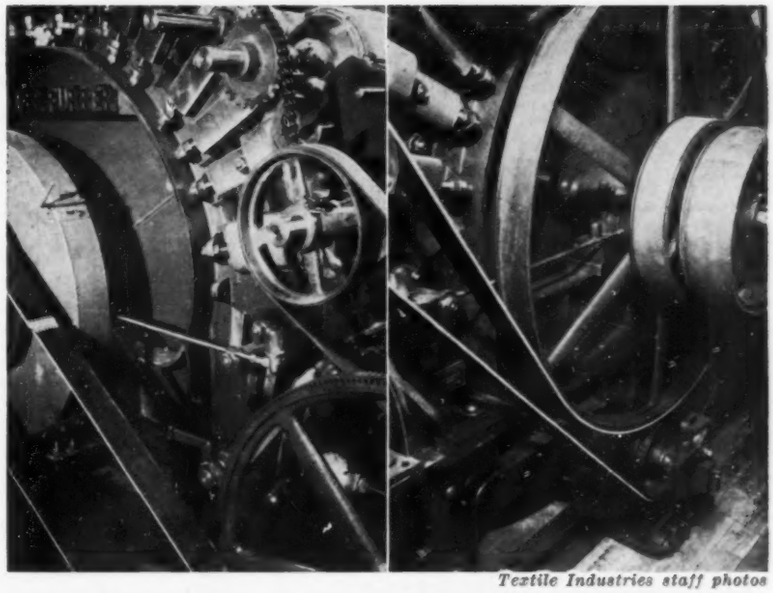
Lint will in time work into the oil reservoir and act as a wick to siphon all oil out of the housing.

*Society of Automotive Engineers viscosity number. The S.A.E. viscosity numbers for crankcase oils constitute a classification in terms of viscosity only. Other factors of oil quality or characters are not considered.

These bearings should be cleaned out periodically with compressed air, all lint and contaminated oil removed, and then filled with clean, fresh oil.

The cylinder shaft, if not properly lubricated, sometimes wears unevenly, one side of the contact surface wearing more than the other side. This throws the working surface of the cylinder out of true. Either the installation of a new shaft or grinding of the cylinder surface with a solid emery wheel will remedy this condition.

When difficulty is experienced with oil working out of the cylinder bearing reservoir, drip oilers serve as one solution. Certain of these can be adjusted to feed the proper amount of oil to the bearing when the machine is running and automatically stop feeding when the machine is stopped. The contact oilers usually consist of a glass or plastic sphere fitted at the bottom with a tube inside of which is a close fitting spindle that slides up and down. This spindle contacts the shaft, and as the shaft turns the motion vibrates and twirls the spindle, allowing a minute but sufficient quantity of oil to flow to the bearing. Heavy oils should not be used in this type of oiler; the oil should be absolutely clean for proper functioning of the device.



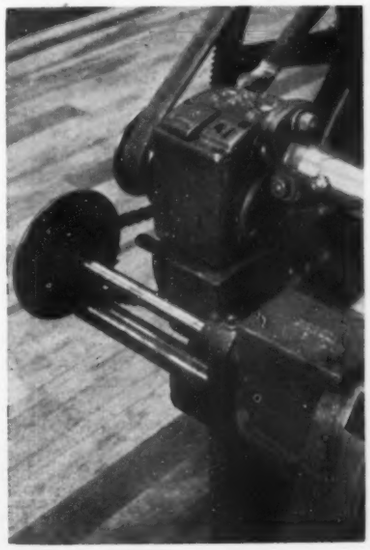
Textile Industries staff photos

Note bottle oilers mounted on left and right side of cylinder to assure correct flow of oil to cylinder bearings when lubricant is needed.

Comb Boxes. The high speed doffer comb sometimes presents a lubrication problem, but this is usually due to neglect or improper adjustment of the working parts. The lower half of the comb box serves as a lubricant reservoir, and the reciprocating motion of comb fork keeps the oil agitated and circulating to all bearings. There is an oil plug at the bottom of the reservoir and periodically the old oil should be drained out, bearings washed with kerosene, and the reservoir filled with new oil. In addition, the cover of comb box should be removed and all oil channels for circulating and returning oil to the reservoir should be thoroughly cleaned. Recently ball bearing comb boxes have been developed which require less attention at the necessary high speeds usually demanded in sustaining production.

Fixers Must Be "Lubrication Conscious." Fixers and repair men need to be impressed with the importance of a few drops of oil in the right place at the right time. An overseer making his rounds in a twenty-set card room observed a fixer installing a heavy duty stud on a card condenser. Two hours later when passing this same spot the overseer heard the unmistakable sound that indicates a dry bearing. Investigation revealed the dry bearing to be the newly installed stud. After completing the installation of the stud, the fixer had failed to lubricate it; consequently this repair job had to be done over again.

This comb box is oil lubricated. The oil level should be checked at regularly scheduled intervals.



Oil cans should be placed around the room at convenient points for emergency use; an oil can should be a "must" in every fixer tool kit.

When a bearing becomes dry, the metal is heated by the excessive friction that is generated; small bits of metal break off, scoring the contact surfaces of both the shaft and bearing, and this makes a series of grooves or lines around the bearing. These grooves prevent the even distribution of the oil film. If the damage is not too advanced, powdered graphite applied with the oil will polish the roughened surface and gradually cool the bearing. However, it is best to remove the bearing and file the serrated surface with the round side of a half-round file. The shaft should always be filed by stroking the file lengthwise of the shaft to smooth off the sharp ridges. Follow this with a vigorous polishing with fine emery cloth; then lubricate with oil and graphite.

Careful attention to lubrication pays off in reducing lost time, costly repair jobs, and damaged output. The overseer should take

a keen interest in lubrication and show all of his workers that he is interested.

Oiling schedules should be posted in conspicuous places. On components such as tape condensers and Peralta machines, stickers giving date of last greasing and date on which the next grease job is due should be kept on the machine.

Oil and grease wisely applied is a most important factor in the smooth operation of any woolen card room. A card room overseer can save himself much trouble and his employer much expense by careful attention to lubrication.

Suggested Lubrication Schedule for Woolen Cards

Machine Part	Type of Lubricant	Frequency (two-shift basis)
High Speed and Heavy Duty Bearings		
Spike apron roll bearings	Oil	Every shift
Strip apron roll bearings	Oil	Every shift
Spike apron comb bearings	Oil	Every shift
Feeder main drive shaft bearings	Oil	Every shift
Metallic breast cylinder bearings	Oil	Every shift
Metallic breast stripper bearings	Oil	Every shift
Main card cylinder bearings[1]	Oil	Check oil level every shift
Fancy bearings[2]	Oil	Every shift
First stripper over fancy[2]	Oil	Every shift
Leader bearings on broad band feed[2]	Oil	Every shift
Bottom bearings on upright eccentric shaft[2]	Oil	Every shift
Long stud carrying broad band feed traveler drive[2]	Oil	Every shift
Long stud carrying condenser production drive[2]	Oil	Every shift
All other strippers (oil-lubricated)	Oil	Every shift
All other strippers (grease-lubricated)	Grease	Twice Weekly
All high speed doffer combs (oil-lubricated)	Oil	Check oil level every shift
All high speed doffer combs (ball bearing, grease-lubricated)	Grease	Monthly
Condenser eccentrics (oil-lubricated)	Oil	Every shift
Condenser eccentrics (ball bearing, grease-lubricated)	Grease	Every 2 months
Condenser tape rolls (oil-lubricated)[3]	Oil	Every shift
Condenser tape rolls (grease-lubricated)[3]	Grease	Every 2 months
All rub apron rolls[3]	Oil	Every shift
All gear and sprocket studs on condenser production drive	Oil	Every shift
Broad band feed traveler assembly	Oil	Every shift
Peralta crush rolls	Grease	Every 3 months
All stripper and eccentric drive idler pulleys	Oil	Every shift
Slow Speed Bearings		
All feed rolls and feed roll drive assemblies	Oil	Twice weekly
All feed roll table apron bearings	Oil	Twice weekly
All worker bearings (oil-lubricated)	Oil	Twice weekly
All worker bearings (grease-lubricated)	Grease	Weekly
All doffer bearings	Oil	Twice weekly
Hard-to-Reach Bearings		
Spike apron top roll bearings[4]	Oil	Every shift
Feeder main drive shaft bearings[5]	Oil	Every shift
Sprocket or gear idler on breast worker drive[6]	Oil	Twice Weekly
All stripper and worker drive idler pulleys or sprockets[6]	Oil	Every shift
Broad band feed—transverse aprons under doffer comb or under Peralta delivery apron[7]	Oil	Every shift
Near-the-floor short apron under transverse aprons	Oil	Every shift
Top bearings of upright aprons and overhead delivery apron bearings	Oil	Every shift
Bottom dividing roll and its two tape rolls[8]	Oil	Every shift
Near-the-floor bearing of upright eccentric shaft[9]	Oil	Every shift

1. Ring-oiled bearings.
2. All these bearings are subject to heavy belt pressure on belt side. Special attention should be given to the oiling of these bearings.
3. These bearings are subject to pressure from tapes and rub aprons.
4. Oil holes obstructed by clutch on one side and large gear on the other side.
5. Oil holes on inside of frame; hard to reach and often plugged with seeds and trash.
6. On cards equipped with drives inside the frames.
7. Fitted with oil pipes that are often found plugged with sludge.
8. Fitted with oil pipes.
9. On some condensers, this bearing can be oiled only by reaching through the pulley when the machine is stopped.

New Flame Resistant Chemical Does Not Alter Hand of Fabric

Development of a flame-resistant chemical for cotton and rayon fabrics, has been announced by the Du Pont Company. When properly applied, it gives those fabrics a flame resistance which is durable to dry-cleaning, normal home laundering, and weathering, but which does not change the appearance or hand of the material.

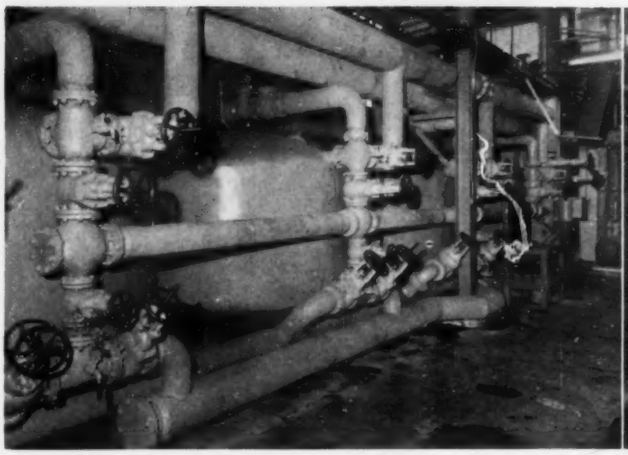
Fabrics treated with "Erifon," the trade-mark of the new chemical, will not support combustion.

A flame held to treated material will char the fabric at the point of contact but the flame does not spread.

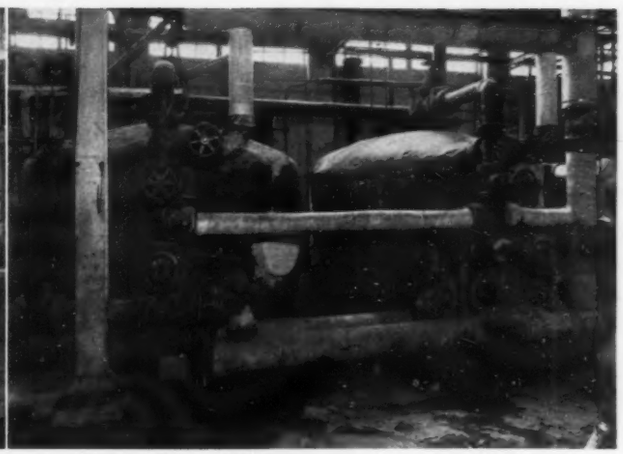
Tests indicate that the retardant remains effective in fabrics after more dry-cleanings and normal home launderings than they would usually receive in their lifetime. However, it is not durable to the acid sours and alkalies customarily used in commercial and industrial laundries.

Erifon flame retardant does not adversely affect the "hand" nor does it change the draping qualities of materials. It does not stiffen or weaken them, and at most adds only 15 per cent to the weight. Fabrics treated with the chemical have no irritating effect on the skin.

Production of the chemical is on a commercial scale. Its application must be done so precisely that it can be handled only in textile mills. Some extra equipment is needed in most mills to apply the chemical. The skill required for satisfactory application is considerable. Most technical problems of commercial application have been worked out, although individual mills may run into problems of their own in starting operations with Erifon, according to the announcement.



Four filters are now in operation and equipped with anthracite filtering elements. Two new filters were added for parallel operation, and the old ones were renewed.



Old system, showing the two anthracite filters which were in use before the change. These two tanks measure nine feet in diameter. They were connected in parallel.

American Finishing Company's

EXCLUSIVE

Improved Water Processing Plant

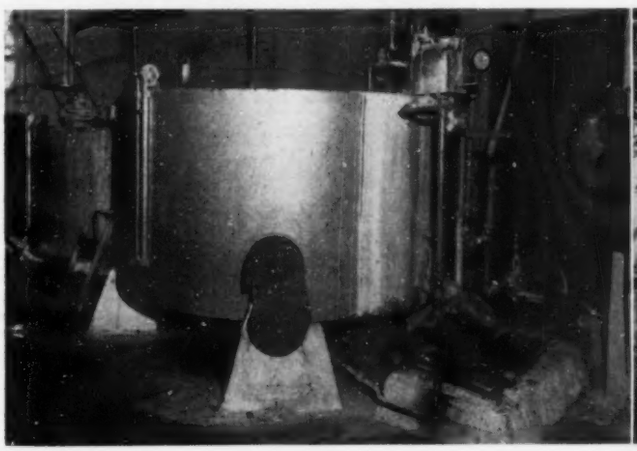
Staff Prepared

An improved system for processing boiler feed water is paying dividends in terms of less maintenance and reduced unit costs.

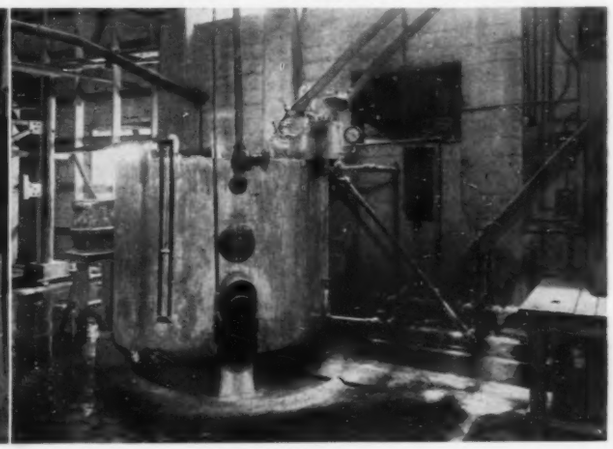
IN HIGH PRESSURE boiler plants, efforts are made to maintain a low concentration of silica in the boiler water. Silica in the water, even in low concentrations, is likely to volatilize, be carried over with the steam, and solidify on turbine blades, causing loss of capacity and efficiency. This eventually makes necessary costly cleaning or washing with the aid of chemicals such as caustic soda, thereby increasing maintenance costs.

Increased Demand. The American Finishing Company, Memphis, Tenn., has grown to include a new coating division, napping department, printing plant, and corduroy department. Expansion of the plant made it necessary to install new boilers, each with a capacity of 125,000 pounds of steam at 290 pounds pressure. New turbines

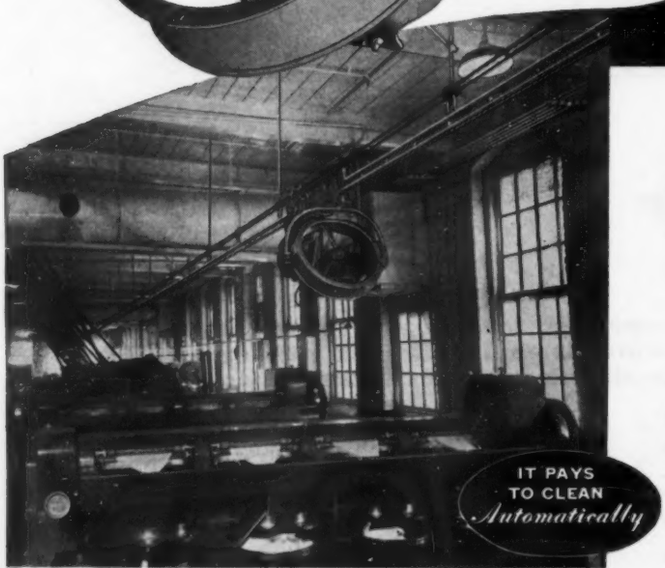
Lime and soda ash chemical mix tank located in boiler room. This reservoir feeds directly into the first stage tank. Metering equipment controls rate of flow.



Old lime soda ash tank before it was converted to handle phosphate for use in the new water softening system. This tank appears in background of picture at left.



Keep Ceilings Clean with AUTOMATIC CEILING CLEANERS



No Labor Cost
No Production Loss
No Ladder Accidents
No Fire Hazard

At a recent meeting of textile executives, twenty-four mills reported most common practice of blowing down ceilings once every twenty-four hours with frames running, or once a week when idle. This means lost production when the machines are shut down under the cleaners or extra time for cleaning labor.

ONE MILL REPORTED EXCELLENT RESULTS WITH AUTOMATIC CLEANERS!

Our engineers can show you how a simple high-velocity traveling fan unit can eliminate your ceiling cleaning problem entirely. Systems have been operating well over a year without blow down.

Write for copy of Bulletin CB-3 describing all the latest developments in Automatic Cleaners for Textile Mills.

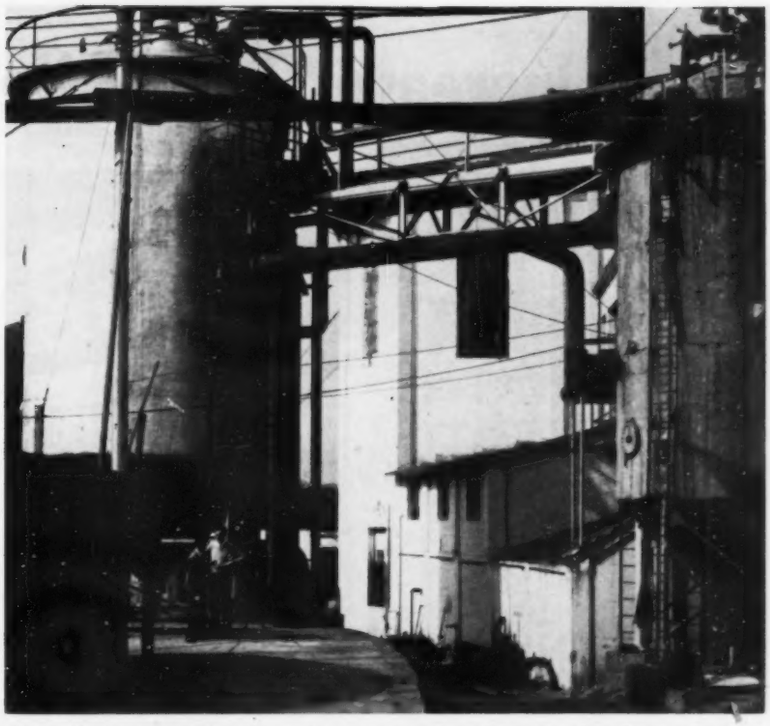
THE AMERICAN MONORAIL COMPANY

13106 ATHENS AVENUE **CLEVELAND 7, OHIO**

supply 1750 kw at 100% power factor.

A new Cochrane deaerating hot process softener was purchased for series operation with the existing system, thereby converting all of the facilities into a highly efficient two-stage system. Lime and soda ash are used in the first stage, followed by deaeration, and phosphate for precipitation of the residual hardness external to the boiler in the second stage.

Two-Stage Softener. The deaerating hot process water softener has a capacity of 40,000 gallons per hour (320,000 pounds per hour) and was installed ahead of the existing sedimentation tank. Softener capacity was originally 18,000 gallons per hour (144,000 pounds per hour), and there were two pressure filters for clarification of the boiler feed water after softening. Four filters are now in operation. Two new ones were added (parallel operation) to old ones which were reloaded with anthracite filtering elements.



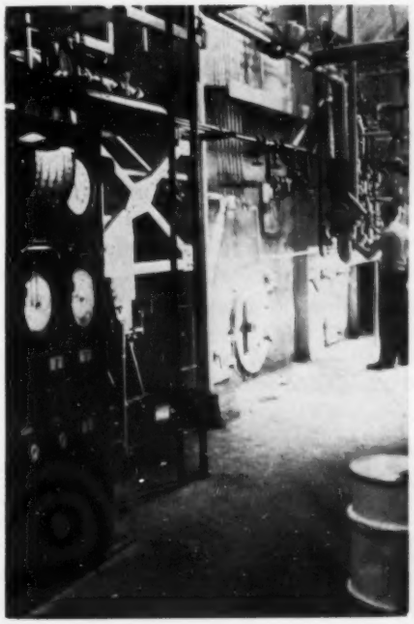
Left, first stage hot process lime and soda ash tank with deaerating equipment (40,000 gallons per hour capacity). Right, second stage tank which was formerly the only tank in use.

Water softened by the addition of lime and soda ash in the new hot process, to a hardness of 10 to 15 ppm, is deaerated by an integral atomizer for removal of dissolved oxygen and other non-condensable gases and then stored in a separate annular compartment within the first stage sedimentation tank.

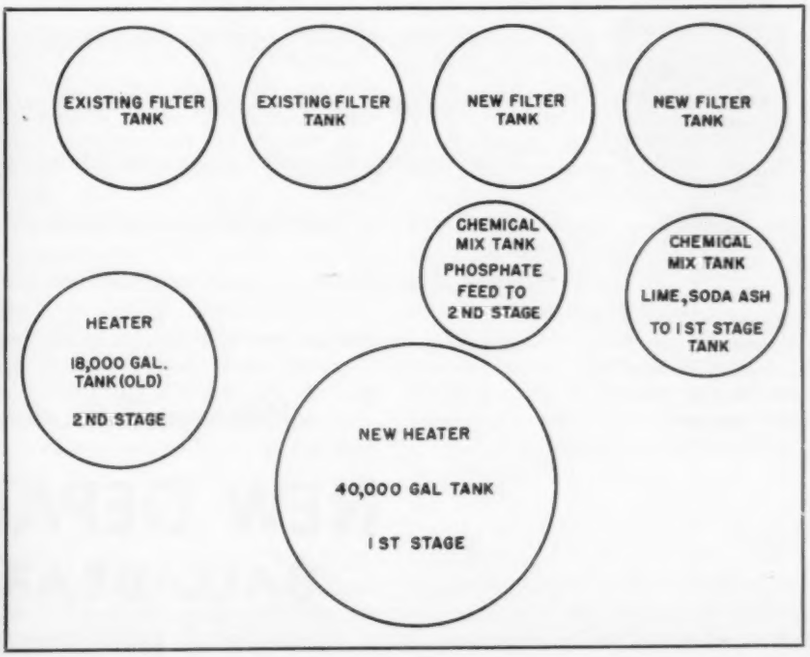
The lime reaction takes place and the soda ash reacts with the normal sulphate hardness to precipitate calcium and magnesium carbonates. The magnesium salts hydrate partially to remove the silica.

Partially softened and deaerated water flows to the sedimentation tank which has been converted to use phosphate reagents for remov-

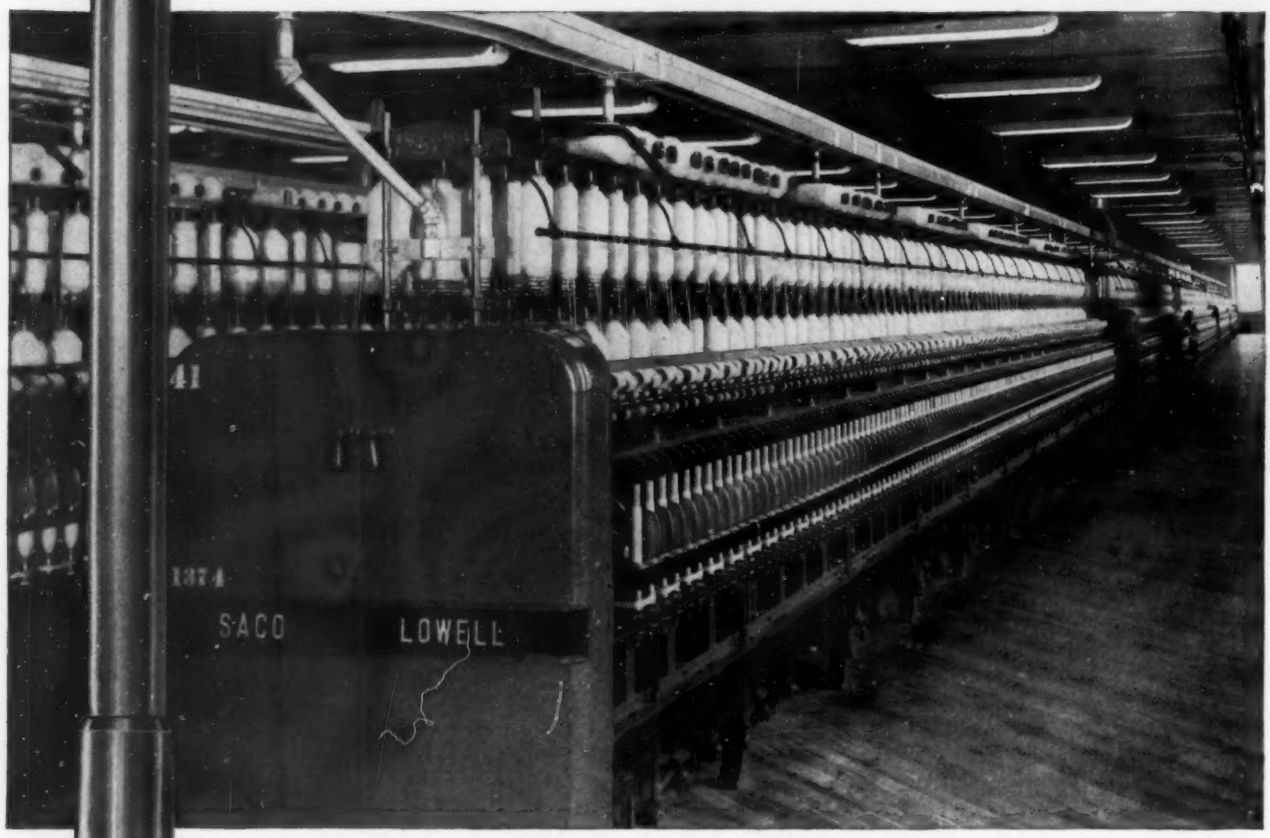
View in boiler room showing new installations. Note new instrument and control panel at left.



Layout showing arrangement of the new water treatment system and including some of the old equipment which was modified or renewed for use in the new installations.


EXISTING FILTER TANK
EXISTING FILTER TANK
NEW FILTER TANK
NEW FILTER TANK
CHEMICAL MIX TANK PHOSPHATE FEED TO 2 ND STAGE
CHEMICAL MIX TANK LIME, SODA ASH TO 1 ST STAGE TANK
HEATER 18,000 GAL. TANK (OLD) 2 ND STAGE
NEW HEATER 40,000 GAL TANK 1 ST STAGE

Increase Tape Life Nearly 300%



Performance proved by hundreds of thousands of spindles in over five years in mill operation.

New Departure Equipped New Era Spindles in Saco-Lowell Spinning Frames at New Continental Mills, Lewiston, Maine.

Reducing power requirements by 25% or more and increasing tape life approximately 300% are only part of the direct results obtained by the use of free turning, true running spindles on modern, New Departure precision ball bearings.

These bearings are sealed and grease lubricated. There is no oil throwing, no oil soaked yarn, no build-up of oil and lint mixture on the spindle rail.

There is no adjusting, repairing or replacement of parts required under normal operating conditions, and bearings show no perceptible wear after 30,000 hours.

Nothing Rolls Like a Ball

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • Division of GENERAL MOTORS CORPORATION • BRISTOL, CONNECTICUT • BRANCHES IN ALL PRINCIPAL CITIES

al of residual calcium and magnesium hardness.

Economical Treatment. The two-stage method of softening a high-carbonate, or other high hardness water, combines the use of cheap chemicals, lime and soda ash, for precipitating the bulk of the hardness by using phosphate to precipitate the last vestige of hardness. For example:

Lime at $12 per ton = $1.00*
Soda ash at $21 per ton = $2.48
Trisodium phosphate
at $54 per ton = $15.30

Provisions have been made to operate either or both sedimentation tanks as first-stage lime and soda ash softeners in case of damage or rupture to any part of the system.

A stirring mechanism has been provided for the new sedimentation tank. The stirring mechanism insures adequate mixture of the chemicals with the water and provides means for efficiently coagulating the precipitated hardness.

*Relative costs, using lime as unity or $1.00 to remove one unit of hardness.

GOOD CHARACTERISTICS OF BOILER FEED WATER

Zero Hardness
Low Total Solids
Low Concentrations of Silica
Low and Controllable Alkalinity

Water from the processing system is used to supply boilers, for heating, steam, and all heating applications throughout the plant. For added efficiency, exhaust steam is utilized to heat drying cans and to maintain the temperature in the hot water tanks. Exhaust steam is released at 50 pounds pressure into a 12 to 14-head low pressure steam supply line which feeds various other steam lines. Finally the exhaust steam goes to an open boil-off system.

Should the demand for low pressure steam exceed the supply temporarily, a bleed-off is connected to high pressure line to maintain 50 pounds of pressure in the low pressure lines. High pressure steam goes to coating plant applications and is used in drying ovens and for printing.

The plant's water supply is pumped from a private well 500 feet deep. Three pumps deliver 3600 gallons of water per minute to a reservoir from which two centrifugal pumps relay it to the top of the first stage sedimentation tank.

Water processed in the old system had a hardness of 25 ppm. The new system reduces the hardness to 3-4 ppm. According to plant officials, only 5-10 parts of excess phosphate are carried into the boilers since the new system has been in operation. Steam for both sedimentation tanks comes from the low pressure line which takes exhaust steam from the turbines. Boiler feed water is heated by a line carrying five pounds of exhaust steam.

Protection Needed When Using Solvents

Most occupational accidents involving solvents occur in the small plant or shop where there is no safety organization to supervise the handling of chemicals, including solvents, according to Safety Research Institute, Inc., 420 Lexington Ave., New York 17, N. Y.

The most commonly used solvents consist of benzol, benzine, acetone, carbon tetrachloride, trichlorethylene or perchlorethylene. Careless handling of even small amounts of these materials may lead to fire, illness, or both.

Since it is probably the proprietor, manager, or foreman in the small plant who must play the role of "safety director," it is up to him to read carefully the labels on all drums of chemicals received in the plant, and to be certain that the precautions recommended by the manufacturer are observed. If drums of solvents bear trade names which do not reveal their composition, this information can generally be obtained from the manufacturer or distributor.

Solvents are volatile liquids; that is, they give off vapors readily. With the exception of the chlorinated solvents (such as carbon tetrachloride) the vapors given off are flammable. Moreover, when air containing a large amount of solvent vapor is inhaled, illness is likely to result.

If the concentration of solvent vapor in the air breathed is large enough, it is likely to cause unconsciousness and even death if the individual is allowed to remain in the atmosphere long enough. Lower concentrations of solvent vapor can give rise to headache, dizziness, stomach upset, and various disturbances of the liver, kidneys, or other organs of the body. In addition, long or repeated contract of the skin with solvents can cause irritation and dermatitis.

Of course, solvents can be, and are, used with complete safety, even in large volume, provided the proper handling methods are employed. This is usually the case in large plants, where continuous solvent processes are carried out with no difficulty. It is not so often recognized, however, that small uses of solvents, such as wiping of lenses, or occasional uses, such as cleaning motor parts, also constitute solvent "operations" which require attention to safety.

The small solvent user can protect his plant and his operatives by making sure that every procedure employing solvents, whether for a brief or extended period of time, is arranged so that employees do not inhale solvent vapors. In some instances, this may require the installation of special process equipment; in others, proper ventilation will provide the necessary safeguard against the dangers.

A partial view of new Butterworth "Bullet" Padder frames in early stages of assembly at Butterworth plant. Inset shows tanks for "Bullet" Padders prior to assembly.

What! An Assembly Line for Padders?

Not exactly an assembly line . . . But, the growing demand for the new Butterworth "Bullet" Padder has prompted Butterworth to manufacture the new Padder in quantity for stock. Finishing plant operators have discovered that these Padders are more *flexible*, more *interchangeable* and more *basic* than any padders now in use!

Look at the advantages:

(1) Rolls are interchangeable from 12" to 20" in dia.
(2) Pressures can be varied from zero to 15 tons.
(3) Design makes tearing out of frames unnecessary.
(4) Can be used on rayon, cotton or wool.

Substantial savings in labor and production time can now be realized. For example, it is now possible to convert a 4-ton Butterworth "Bullet" Padder into a 15-ton padder without tearing out an entire frame, or without loss of operational time. In making a conversion, only rolls have to be changed; basic parts of the machine remain the same.

The new Butterworth "Bullet" Padders have a streamlined, bullet-shaped appearance, compact in design, extremely functional in operation. Available in two models: 2-roll or 3-roll for light or heavy duty. Get all the details on these new machines today.

BUTTERWORTH

H. W. BUTTERWORTH & SONS COMPANY, Phila. 25, Pa. • Providence Div., Providence R. I. • 1211 Johnston Building, Charlotte, N. C. • In Canada: W. J. Westaway Co., Hamilton, Ont.

Representatives in Principal Countries of the World

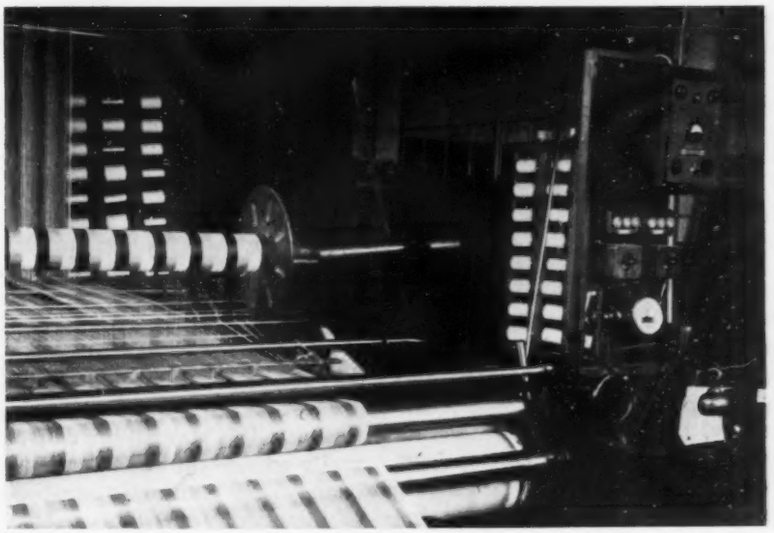


Fig. 1. One Swiss mill with about 200 looms ran over 8,000 sample designs last year. Patterns are counted in at tying-in machine instead of at slasher. In this picture, plied yarn to form the pattern is fed from front of slasher; does not pass through size rolls.

Photos by Seydel, courtesy of Weberei Aarau, Switzerland

Swiss Slashing Practices

By **PAUL V. SEYDEL**
Seydel-Woolley & Co.

EXCLUSIVE

RETURNING from a recent visit to Switzerland, where he saw operations in a number of Swiss textile plants, Paul V. Seydel gives the highlights of slashing methods in that country which differ from American procedure. Dr. Seydel will be remembered as the author of the series on "Cotton Warp Sizing" which appeared in this magazine, and which is available in book form under the title "Cotton Slashing."

IT IS ALWAYS interesting to see "how other men manage," whether it applies to your own particular conditions or not. Perhaps you can swap a few mutually helpful ideas—you remember what the old philosopher said: "If we each have a dollar, and we trade dollars, no profit; we're no better off. But if we each have an idea, and we trade ideas, we both profit. We end up twice as well off."

It was with this in mind that your foreign correspondent pro tempore visited a few Swiss mills and traded ideas on slashing. And it seems to be in the slashing department where their textile mill practice seems to deviate the furthest from ours.

Most of the deviations can be traced either to the difference in properties of their raw materials, or to the fact that they have to work with small yardages of wide varieties in styles and patterns. The usual answer when I mentioned how we did things in America started with—"Yes, that sounds all right. But that wouldn't suit us because . . . "

The Swiss are Friendly. The biggest surprise was the friendliness with which I was greeted by the Swiss mill men. In the several mills visited, and the Ruti machine factory where the famous Swiss Ruti slashers and looms are made, everyone was very kind, free with his time, and generous with answers to questions.

This was particularly true at Weberei Aarau, in Buchs bei Aarau, operated by Hans Meyer and his son, Peter. Peter was very hospitable, and even allowed me to take a few photos of his slasher. He told me he had been treated so well in America during the period he worked at Martel Mills that he was glad of the opportunity to do a favor for an American (by the way, he sends his best wishes to his old friends at Martel).

Pattern Headaches. Some of us in America think that we have headaches with changing styles. Maybe you'll feel a little better when you consider that Peter Meyer, with a few more than 200 looms, last year ran over 8000 sample designs, and did some production on nearly 3000 of these! I thought he had misplaced his decimal point until he showed me his sample books. For this he uses cotton, rayon, wool, and some linen. And this is typical of these mills which produce mainly for a

country of some four million individualists.

Of course, the Swiss design departments can simplify operations somewhat by using the same warp and changing the filling on a series, but they still have a great many short runs.

Counting-In Ends. One consequence of this is that they don't bother to count in all their patterns on the front of the slasher, as you can see by the vagueness of the pattern on the loom beam in Fig. 1. Very often a slasher set will run to only one or two loom beams, making it just as easy to arrange the patterns when tying in. If this were done on the slasher there would be a waste of some fifty or sixty yards, which doesn't mean much in several thousand, but in a 750 yard set is a large percentage.

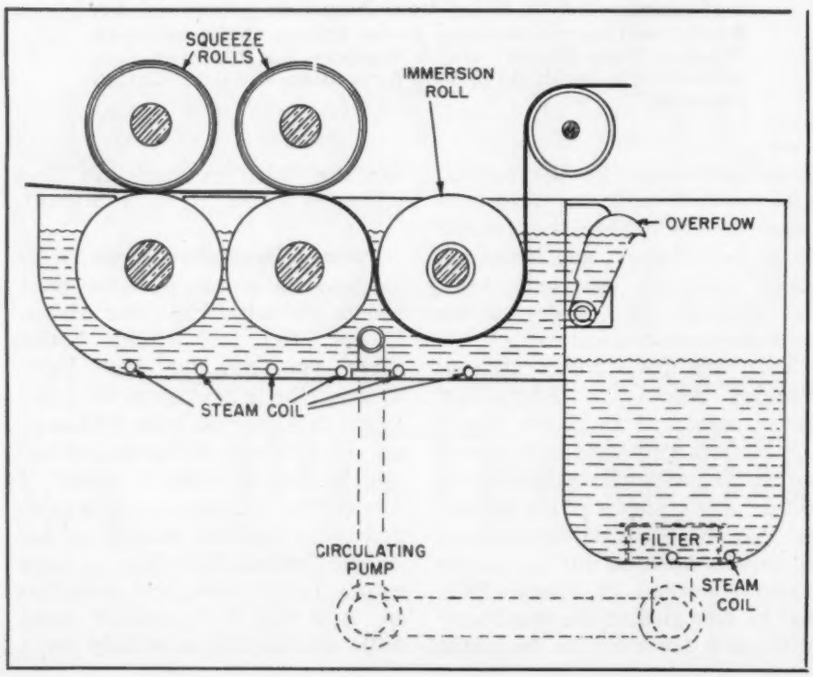
The upper beam you see in this photo has plied yarns which are run into the pattern without sizing. They seem to prefer this to our system of running the plied yarns through one or two pairs of squeeze rolls to get a light sizing.

Burlap for Threading Slasher. Another trick often used to cut down on waste is that of using a length of burlap for threading up the slasher. This, coupled with the practice of not counting in at the slasher, cuts waste to a minimum. This burlap is also used between sets for cleaning the slasher, to eliminate need for rethreading at that time.

On short sets, the efficiency is still further increased by the use of a sectional warper. The yarns are wound first onto the large reel of the warper, rewound onto one or two section beams, and then sized and rewound on a loom beam. In this way all the ends normally on several beams are on one beam. This eliminates waste due to uneven run-outs.

The panel at the right of the slasher in Fig. 1 is part of the moisture control apparatus. I was told that it operates by static electricity. A half dozen wire loops suspended from a thin metal rod are allowed to drag on the yarns. The static electricity formed by this friction builds up a potential measured by the control. The more moisture, the easier the charge is dissipated, thus allowing a means of electrical control. The actual control is obtained by automatic variation of slasher speed, as with the models familiar to American mills.

Fig. 2. Cool size from storage kettle is preheated in trough at size box. Often concentrated size is made, is diluted in preheating trough in size box.



Hot Air Slashers Prevail. Most Swiss slashers are equipped with hot air drying chambers . . . as a matter of fact this seems to be prevalent practice all over Europe. I was told that normally the cylinder slashers are recommended only for slashing of grey yarns. The reasons given for preference of hot air slashers was that there was less damage to fine yarns, less damage to the size film from local overheating, more efficient use of the heat supplied, and besides, they were in the habit of using them. There does seem to be much less radiation loss, and by the use of efficient heat exchangers much less heat goes up the chimney than is the case with cylinder slashers.

These hot air chambers are usually steam heated to temperatures around 160-170° F. One interesting point in several mills was the fact that they use electricity in the summer time for their slasher room steam, so that they don't have to fire up their boilers for the comparatively small steam requirements. And since the cost of electricity is controlled by demand, the slashers and cooking equipment are shut down over the noon hour when many homes and restaurants are using electricity for cooking.

There are two reasons that the Swiss use much more electricity than we do for industrial heating: their current is cheaper, and their coal is much more expensive, since they produce none and must import.

Size Cooking and Storage. Speaking of cooking, the cooking of the size in Switzerland is totally different from the American method. The ingredients are usually weighed first into a mixing vat with very good agitation, often an oval-shaped vat with two paddles turning against each other. After a few minutes stirring to obtain proper dispersion of the starch, thinner, softener, antiseptic and whatever else may be used, the whole is pumped into a closed pressure cooker, cooked 20 minutes at two atmospheres pressure, then pumped into the storage kettle, which may or may not be heated.

Since the mixing kettle is not heated, this means that all ma-

SARAN

BY NATIONAL

the fiber for upholstery —*that welcomes heavy traffic*

Upholstery woven of saran is the natural choice for public seating applications—where good looks must be combined with superior durability and low maintenance costs. Saran monofilaments are *tough*—resist dirt, stains, abrasion and hard wear! They're *beautiful*—decorator colors are molded into the fiber! They're *care-free*—retain their brilliant newness with a minimum of care! And as fine as .005", they're clean, lint-free—a pleasure to work and to weave! Versatile saran monofilaments offer limitless inspiration to the textile field.

THE *National plastic products company*

Manufacturers of Saran filaments, Nevamar High-pressure Laminates and Wynene Molded Products.

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SARAN BY NATIONAL *denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Dow's saran, and supplied to mills, weavers and other fabricators.*

YOU CAN WIN BOTH EYE AND HAND approval with Cyanamid's Finishing Oils. They are extremely effective as softening agents for cotton, rayon and silk, and for hosiery and knitted fabrics. Grades for various textile finishing operations are available for use on the finest as well as for heavy work clothing fabrics.

YOU CAN LEVEL YOUR DYEING *and* dyeing costs with DECERESOL OT Wetting Agents because of their remarkable efficiency in achieving uniform level shades at real savings in time and expense. DECERESOL OT is the fastest wetting, penetrating and dispersing agent available.

YOU CAN SEE DOUBLE benefits — water repellency plus superior resistance to water borne stain — quickly obtained with Cyanamid's PARAMUL* 115 Water Repellent in a wide variety of fabrics . . . cottons, rayons, linens and woolens . . . for both outerwear and equipment purposes.

These Cyanamid Textile Specialties Help You LOWER COSTS AND INCREASE SALEABILITY

The Cyanamid textile specialties described briefly on this page are designed not only to lower your processing costs, but also to improve your product quality and *saleability*.

Investigate the opportunities they offer. Our textile research laboratories and technical staff are ready to co-operate fully with your staff in using these specialties to obtain the most satisfactory results.

Our descriptive booklets, "Textile Specialties" and "DECERESOL Wetting Agents for Textiles" will be mailed to you promptly on request.*

*Reg. U. S. Pat. Off.

AMERICAN *Cyanamid* COMPANY
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terials used must be either liquids, thin pastes, or powders. This rules out the use of tallow, gum pastes, and most of the rest of the materials used in slashing in this country. The usual Swiss softener is a sulfonated or partly saponified fat or fatty alcohol which gives a good emulsion in cold water. For those mills not equipped with heated mixing tanks, it is impractical to use many gums, fats, and lubricants which are considered valuable ingredients in this country.

One advantage of their system is that the pressure cooker, being closed, allows very rapid heating without fear of boiling over. Also, the much shorter cooking period means considerable saving in heat requirements.

Because of the short time the size is in the cooking kettle, this kettle is normally not insulated. However, the storage kettle is usually either insulated, or made of wood, which itself is a good insulator.

Some mills try to keep the stored size hot, or at least nearly so, while others just allow it to cool gradually. Such practice would be disastrous if they used corn starch, which once gelled at about 180-190° would no longer give a continuous, smooth film after stirring (the gel formation with starches is irreversible).

However, the Swiss use potato starch exclusively, which must get much colder than corn to gel, and gels only slowly. For them, potato is used because it is cheaper, not because they think it is better. (Very little corn is grown in Europe, and what is grown is not usually processed or eaten. Europeans consider corn as good only for horse food.)

The fact that the size in the storage kettle is allowed to cool causes still another change in practice. Since it would be bad to put a comparatively cool size directly into the size box, the slashers are equipped with a pre-heating trough, as shown in the diagram in Fig. 2. The vertical trough on the right takes the size from the storage kettle, heats it to temperature, and from here it is pumped into the size box. After the size in the preheater trough comes to temperature, the pumping is continued until further size is needed, giving a circulating system with an overflow for constant level control. The level may be changed by raising or lowering the overflow spout.

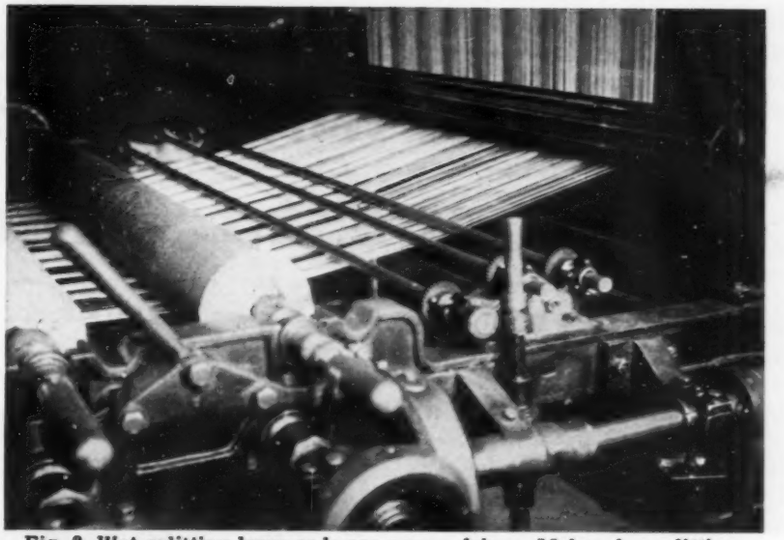


Fig. 3. Wet-splitting lease rods are power driven. Makes dry-splitting better; reduces fuzzy yarn. When this photograph was made, the rods were on top of warp, ready for leasing.

The whole size box set-up may or may not be jacketed for hot water heating, which is sometimes used. This is again something that would not be practical with corn starch, which gels too easily if not kept near the boiling point.

Size Diluted at Size Box. In order to decrease the number of batches cooked, the size is often made up in concentrations of from 10 to 14%, and diluted when adding to the preheating trough to the desired concentration, which for some constructions may be as low as 5 to 8%. The concentration is checked with a pocket model refractometer which is calibrated to read directly in percentage starch. This gadget is about an inch in diameter, and ten inches long, very handy and easy to use.

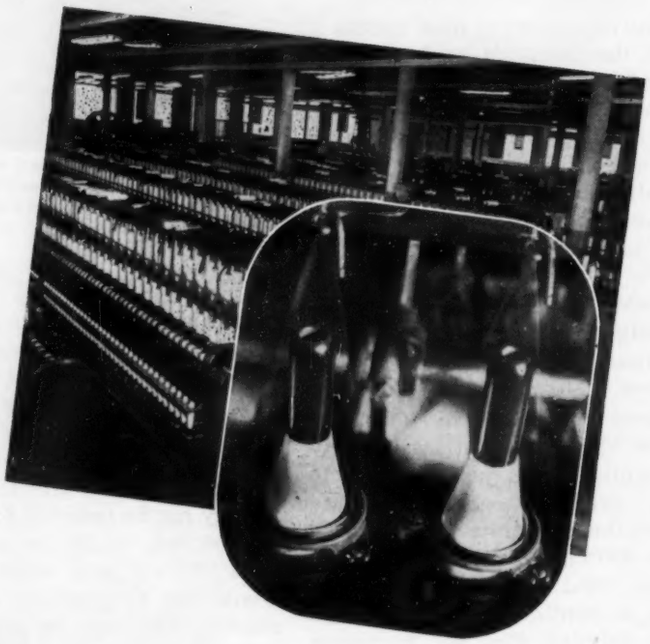
Roll Coverings. Although the diagram (Fig. 2) shows two pairs of squeeze rolls, a great many slashers are equipped with only one pair of rolls. Many of the Swiss mill men say they have found the second roll unnecessary and a nuisance. The Aarau mill, however, prefers the two pairs, using a regular blanket on the back roll and a cylindrical seamless tube blanket on the finishing roll to prevent blanket marks. This tube usually lasts for two months of one-shift operation, though it sometimes develops blisters and has to be removed sooner.

Synthetic rubber rolls have been tried, but the consensus is that they are not satisfactory. Perhaps foreign manufacturers have not determined proper consistency for good results.

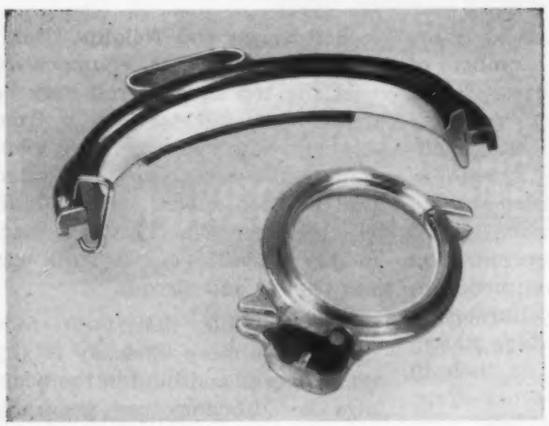
Roll Drives and Weights. Usually the slashers are equipped so that the top squeeze roll may be driven in order to keep it from slipping and causing undue tension on the yarns. One man stated that he used driven rolls on light sets, another that he used them mainly when the size formula was very heavy and viscous.

It is possible that their rolls might have more tendency to slip on the yarns and bind in the bearings because they are generally lighter than is the practice in this country. They use rolls weighing about 175-200 pounds normally, and where they feel more weight is required, it is added by weighted levers or by spring and ratchet gadget on the top roll bearings. (Also the fact that bearings are generally used instead of allowing the rolls to ride in a slot as we do might have something to do with slippage.) (*See page* 123.)

Why Newnan Cotton Mills Continue to Choose Herr "Conical Rings"



Mr. K. D. Nixon, general manager, says, "We have found the Herr **Conical** Ring to be the best for us on 100% wool worsted, 100% spun nylon, and mixed fibres. We have less ends down, and the rings aid in producing an even yarn. Our results with these rings have been most satisfactory."



Herr **Conical** Rings have many features to commend them to you as a solution of your ring problems . . . the **conical** shape produces an outward and downward action with the traveler riding on the *top and side face* of the ring . . . helps reduce yarn breakage and to increase production of higher quality yarn with reduced waste . . . accommodates any spinning and twisting rail condition . . . provides absolute control of the flow of oil to the traveler, resulting in cleaner fabric, low oil consumption, longer traveler life.

Ask us to have one of our representatives to discuss your ring problems with you.

HERR MANUFACTURING CO., INC.

318 Franklin St. **Buffalo, New York**

Herr **Conical** Rings are used for quality spinning and twisting of Wool, Worsted, Synthetic and Blended Yarns of all types; also Cotton Twisting.

Driven Wet-Splitting Rods. Fig. 3 shows the one thing which is common on Swiss slashers and which in my opinion would be of the most value to us in this country. These are wet-splitting lease rods, driven from the power shaft to the size box rolls. The photo shows three rods, but one slasher was seen equipped for as many as seven between the size box and the drying chamber. The rods turn slowly, just enough to keep the size from building up on them.

In the photo the rods are shown on top of the warp, ready for leasing. These rods are easily picked up from their slots and handled like ordinary lease rods.

The difference they make is seen at the front of the slasher where the ordinary dry splitting is carried out, but there is practically no adhesion of the yarns to each other, and the leasing is more an action of separating rather than "splitting." This means that breaking of a number of fibers and pulling them away from the yarns to give a fuzzy yarn is practically eliminated. Even more important, the roughness caused by the tearing of the dry size film, leaving sharp edges, is greatly decreased.

Warp Beam Drive. The friction drive for the loom beam consisted of a driving gear, on each side of which was a ¼-inch thick pad of felt to produce the friction between the gear surface and the surfaces of two outer plates which were connected to the shaft to turn the loom beam. One slasher I saw which was equipped for very heavy work had one of these at each end of the loom beam shaft, giving a total of four friction surfaces. There seemed to be little or no chatter to these drives when running at a creeping speed.

These hot air slashers seem to require much closer control of tension for proper operation than is required for the usual cylinder slasher. This is probably due principally to the lengths of warp between rolls. Any slackening of tension would allow rolling of yarns, with the attendant difficulties. Excessive tension will result in the same difficulties in slashing and weaving that it causes on cylinder slashers.

Since the yarns are split wet, little or no tension is required for proper leasing, allowing less tension to be used over all than would otherwise be required.

Tension Control. Instead of controlling tension by the amount of cloth on the drag roll as we usually do, the Swiss use a pair of cone pulleys in the line to transmit the power to the squeeze rolls in the size box. The appearance of one of these units is shown in Fig. 4.

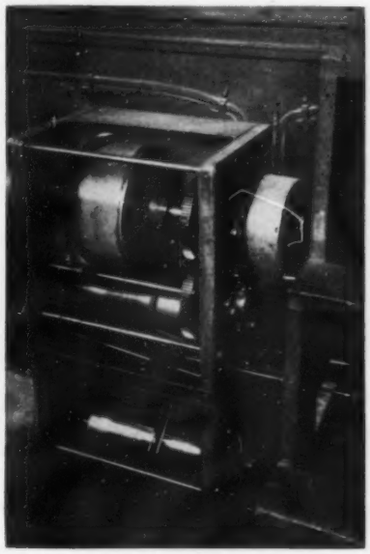


Fig. 4. Cone pulleys control tension on yarn, instead of amount of cloth on drag roll (as done in America). Dancer roll and levers control action.

As the belt on the cone pulleys moves back and forth, the ratio of the speed of the squeeze roll to that of the drag roll is varied. This can be controlled by hand by the slasher tender, who adjusts it from time to time according to his interpretation of the feel of the slack in the warp sheet, or it may be controlled by a dancer roll placed between the drying chamber and the lease rods.

The dancer roll is held against the warp yarns by a spring. Any variation in tension of the warp causes a movement of the dancer roll, which is transmitted by a system of levers to the drive unit, where the motion displaces the belt between the cone pulleys so as to make a correction in the speed ratio. If it is desired to change the tension, this may be done by changing the set of the arm on the dancer roll.

Two slashers were seen on which this tension control was brought to the point of having two control units. An extra drag roll was placed just outside of the drying chamber, so that the tension could be varied in the drying chamber independently of the tension in the leasing section. In both cases, these were controlled by hand only.

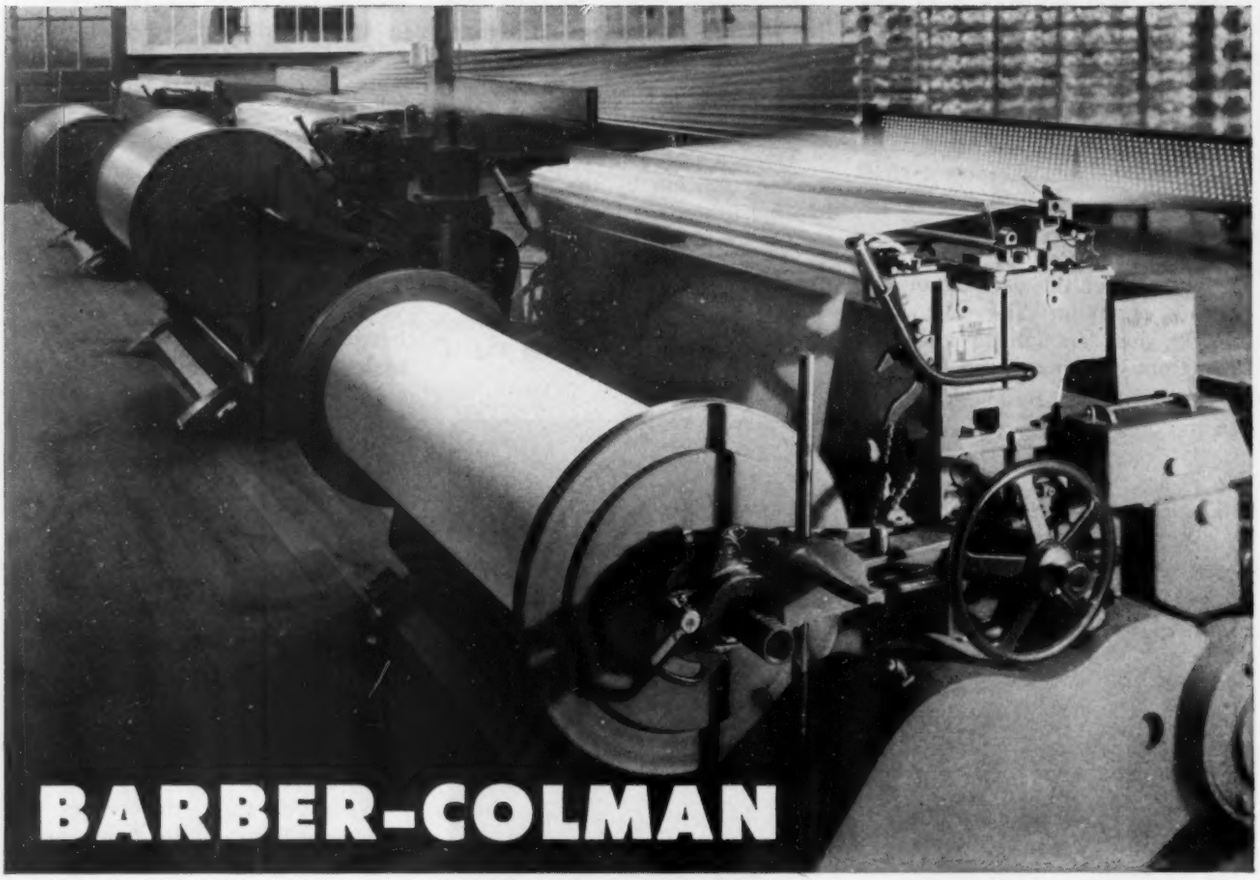
Whatever their differences in mechanical procedure, one very impressive difference is the Swiss insistence on quality, even at the expense of production. They are not so much worried about "getting it out" as they are about making a quality product. The shipshape cleanliness of all the Swiss mills that I saw was a sight to behold.

They explain that they cannot compete with America on a production basis, that their small country must concentrate on quality to have any market. The results show that they can certainly keep up their part in the field of competition.

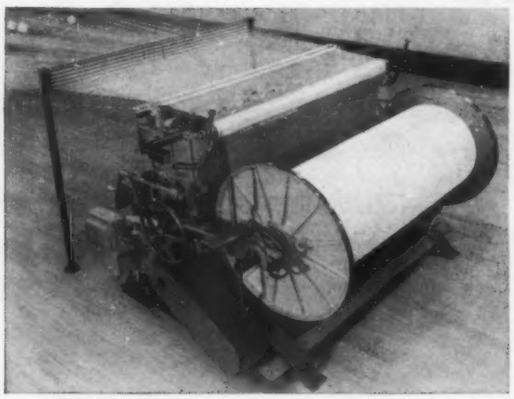
Rayon Shipments Show Decline

For the first six months of 1949, total rayon shipments amounting to 412,400,000 pounds declined 23½ per cent from the same period in 1948, according to the Textile Economics Bureau.

Viscose+cupra yarn shipments totaled 244,500,000 pounds, a loss of 9 per cent from the first half of 1948. High tenacity viscose yarn shipments totaled 140,700,000 pounds, and the remaining viscose+cupra "textile" yarns shipped amounted to 103,800,000 pounds, thus showing an increase of high tenacity of 15 per cent, and a decrease of intermediate+regular tenacity of 29 per cent.



HIGH SPEED FILAMENT YARN WARPER



PRODUCES HIGH QUALITY BEAMS

Mills running rayon or other filament yarns can obtain better beams with this new Barber-Colman Warper. By means of the unique and outstandingly successful Barber-Colman let-off mechanism, truly concentric beams with uniform tension and uniform density throughout are consistently produced. This mechanism automatically maintains constant pressure between the driving drum and the surface of the beam at all times. The let-off is conveniently adjustable so that the density can be accurately controlled to suit mill requirements. A smooth, quick-acting brake mechanism provides a rapid but non-damaging stop. An accurate clock enables the operator to produce beams of uniform length. Maximum speed available is 600 yards per minute, though the warper must usually be run at less than capacity due to yarn and creel limitations. Full details regarding this new Warper will be supplied by your Barber-Colman representative, who will welcome any opportunity to discuss possible applications with you.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

A group of high school seniors arrives at the mill to participate in the tour-forum. Recognizing the educational value of the undertaking, school superintendents gladly suspended classes for the day and provided school buses for transportation to the mill.

While observing the operation of processing machinery, the students have an opportunity to ask questions and become acquainted with operations at first-hand. The ensuing discussions arouse the students' interest in considering textiles for vocational work.

Tour-Forum at Alabama Mills, Inc.

Promotes Good Public Relations and Interest

By **EDWIN B. CALLAWAY**
Textile Information Service

EXCLUSIVE

ALABAMA Mills, Inc., started the tour-forum plan with three major objectives in mind: showing the economic and social importance of the company where its plants are located; arousing interest of high school graduates in seeking jobs with the company, or studying textile courses in college; and dispelling some of the ancient prejudices concerning the textile industry.

A GROUP of high school seniors was leaving one of the seven plants owned and operated by Alabama Mills, Inc., when a girl approached one of the company officials who had been conducting the students on a tour.

"May I go back into the mill, by myself?" she asked.

"Sure," was the answer, "but why?"

"I'm a reporter for our school paper," was the earnest reply, "and I would like to ask the employees some questions without any of the bosses around."

Later, that girl and her classmates participated in an informal forum, hurling question after question at a panel composed of company executives, plant technicians, and others familiar with the textile industry. The pupils asked about mechanical operations they had seen in the mill, sought data on wages and working conditions, and delved into the finances of the corporation.

The combination plant tour-forum was one of a series conducted for high school seniors in all communities where plants are located. The boys and girls saw how cotton is converted into fabrics, and then they were given the opportunity to seek information about the company and the industry as a whole.

Many textile mills systematically conduct plant tours in order to acquaint the public with manufacturing processes and other phases of the industry, while a smaller number have held forums. However, the combination plan put into effect by Alabama Mills, Inc., is rather unique. So far, it has been applied only to high school senior classes, but company officials hope that eventually other groups in mill communities can be brought in.

Program in Action. The tours are held during the morning, when small groups are taken through the mills under the direction of competent guides. All mechanical operations are observed, and the visitors get to meet personnel in various departments.

A luncheon follows, after which an informal forum is held. The students, and their teachers, are invited to ask any question they wish. No subject is barred, and members of the panel make every

IT'S THE SPREAD THAT COUNTS

To the man in the duck blind, that needs no explanation.

He knows it's the shotgun's spread of fire that enables him to cover the area where the ducks are rising.

The *spread* that gives bleachers and dyers a wider operational range is just as important to their de-sizing operations as the spread of fire is to "good hunting." So many of them prefer the all-purpose de-sizing agent, Diastafor—Type L, because it works well in an unusually wide range of temperatures and pH, which meets all enzyme de-sizing requirements.

Probably no two lots coming to your mill are alike. There are always variables—in water or in sizing formulas—to be considered. Sometimes some unforeseen factor threatens to turn a job into a "problem lot." That's when Diastafor's "spread"—its flexibility—counts so much.

Diastafor—Type L is practically fool-proof in operation . . . it gives a fine, flawless finish under widely varying conditions.

Diastafor affords the same uniformly good results whether you are working with cottons, rayons, or mixed goods. You get the fine hand you look for in your finished goods. Diastafor helps keep dyeing even and unshaded, without streaks or blemishes. It can be used satisfactorily in the continuous process.

In addition to Type L, Diastafor de-sizing agents are available in a number of different forms. Diastafor's leadership for more than 40 years has been built on its ability to satisfy almost any de-sizing need.

We'll be happy to furnish further information and prices. Standard Brands Incorporated, *Diastafor Department*, 595 Madison Avenue, New York 22, N. Y.

effort to give honest and complete answers.

Some of the questions are superficial, but most indicate a serious desire on the part of the students to learn more about their state's largest and most important industry.

Tour Alone Inadequate. "We feel that plant tours alone are inadequate," says Paul A. Redmond, president of the company. "Visitors frequently don't have a chance to ask all the questions they wish, and the company does not have the opportunity to tell some essential facts about its operations. Forums have proved excellent complements to tours. In the give and take of open discussions, considerable light is thrown upon our own company and on the entire textile industry."

The events were planned with three major objectives in mind: showing the economic and social importance of the company where its plants are located; arousing interest of high school graduates in seeking jobs with the company, or studying textile courses in college; and dispelling some of the ancient prejudices concerning the textile industry.

Results in Evidence. Substantial results have been determined. Company officials say the tours have enabled the students to see operations first-hand and have done much to remove the air of mystery that usually hangs around a big manufacturing plant. Frequently a tour is the first time that a boy or girl has entered the mill where fathers, uncles, or other relatives work.

Questions at the forums have brought forth information to the effect that the local cotton mill is the biggest employer in the community; pay scales and working conditions are usually above the average for the area; the mill is likely the biggest individual tax payer; women play an important role in the industry; and other important facts that the public should know.

The forums have helped to emphasize the vital fact that profits are necessary to keep the mill open and the community thriving.

It has been learned that the programs have aroused the interest of students in the industry. Both boys and girls have applied for jobs, and some college-bound youngsters plan to study textiles. The industry is seeking bright youths, and this interest will pay dividends in future years.

Beneficial results of the tours-forums have spread beyond the limits of the senior classes. Local newspapers have carried complete stories on the events, while papers with state-wide circulation have printed briefer versions. Live broadcasts, in which outstanding students and panel members took part, have been presented. As a result, favorable publicity about the company and the industry as a whole has been disseminated to almost every person in the mill communities and to the public at large.

Essentials of Success. Much of the success of the events can be attributed to the fact that school authorities are consulted at every step of the plans. Recognizing the educational value of the tours and forums, superintendents have gladly suspended classes for the day and provided school buses for transportation. Class teachers have often assigned lessons on the textile industry prior to the occasions, so that pupils will be more familiar with the subject.

Officials of Alabama Mills, Inc., give just one word of mild caution: the undertaking must be strictly on the level. Panel members must not hedge on any question, and such requests as that made by the girl mentioned at the first of this article must be expected and honored.

By far the majority of textile mills have nothing to conceal and can only profit by taking the public into their confidence. In so doing, they will give favorable impressions like the girl received.

As she came from the mill, a classmate asked the girl what she found out "alone."

"Well," she said, "the operatives I talked to said this is a good company to be with."

Mill men answer questions regarding operation of dobby loom. Some of the questions are superficial, but more often they indicate a desire to learn more about the textile industry and how the mills operate.

Examining samples of fabric after having seen other operations, the students can get an idea of the economic and social importance of the plants where they are located. Ancient prejudices are dispelled by facts.

Will it Stay Color Bright?

This flannel fabric is made to take the hardest of wear and yet remain soft-to-the-touch . . . to withstand repeated washings and still appear bright and color-fast. That's because the manufacturer worked hand in hand with Amalgamated chemists to determine the proper softeners and dyeing assistants. Result: a sure sale immediately.

If dull colors and fuzzy patterns are ruining your sales . . . if the finish on your fabrics is not soft, find out how Amalgamated Products and Services can help you.

Amalgamated Chemical Corporation Products include Fabric and Hosiery Finishes, Dyeing Assistants and Scouring Agents. Amalgamated Field Representatives are experienced textile chemists, ready to assist and aid with any textile chemical problems in your mill. Our modern research and production laboratories are completely equipped with latest research and testing facilities. They are at your service for better fabrics, higher profits. Write or call Amalgamated.

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Amalgamated

Start-Up Marks on

Spun Rayon - Wool Gabardine

START-UP MARKS in rayon-wool blended gabardines are a source of much cloth rejection. If the majority of these imperfections were eliminated, a greater portion of weaving production would automatically become first quality cloth.

Because a start-up mark is visible throughout the entire width of the fabric, it assumes disproportionate magnitude in classifying a length of gabardine. Subsequent dyeing and finishing does not cover any of the ugliness of the broken continuity, but to the contrary, it tends to magnify it.

Gabardines of this type are usually made with either cotton or spun rayon filling. The cotton filled cloth is somewhat easier to weave, whereas the spun rayon filled gabardine requires much more precision and care since rayon fiber is much smoother than cotton. Rayon filling has a tendency to shift before it is locked in the cloth. The cotton fiber has a better locking character and the filling, once beaten into the cloth, does not shift so greatly. This difference makes rayon-filled gabardine especially susceptible to start-up marks, but it can be assumed that the defect in both types of filling is due to the same reasons.

Classification of Start-up Marks. Start-up marks are made at the time the loom is started. Thus, the need for a continuous running of looms is evident. Beginning with yarn making and through the weaving operation, precautions should be taken and corrective steps maintained to minimize loom stops. Many mills have had to abandon this fabric because of the excessive loom stops, which resulted in too many starting marks.

SEVEN KEYS TO SATISFACTORY RAYON-FILLED GABARDINES

1. Loom stoppages from all causes must be reduced to a minimum.

2. Faulty loom brakes and improperly set driving clutches are often responsible for cracks and thin marks.

3. Thick marks develop from filling breaks, run-outs, and operational failures of filling motions.

4. Set marks are induced by tension upon the warp yarns from whiprolls, heavy drop wires, and the strains exerted by harness heddles and shafts.

5. Excessive humidity will elongate rayon yarns under tension and cause ripples.

6. A center filling motion combined with Knowles shedding is ideal for weaving gabardines.

There are three general types of start-up marks:

1. Cracks or thin marks.
2. Thick or heavy marks.
3. Set marks or ripples.

These defects are made either individually or in multiple combinations. It is possible for a crack to follow a heavy mark directly. A set mark can be superimposed on some other defect. Because of this condition, the elimination of one defect does not always result in a faultless piece of cloth after starting a loom. The correction of one fault by the weaver may result in bringing to the surface one or both of the other defects.

Cracks or Thin Marks. Defects of this type usually resemble reed marks. A reed mark runs through the length of the fabric, but a crack runs widthwise. Cracks are more prominent in varying degrees than reed marks. This form of starting mark can be caused by the stoppage of a loom for any reason whatsoever, and because of this a weaver must be very cautious every time a loom is put into motion.

The main cause of cracks or thin marks at the start-up are faulty loom brakes.

The momentum created by the drive and the mass of the loom lay will keep the loom in motion for one or more picks after the shipper is off, unless the braking motion is working properly. The loom, turning only because of this momentum, has neither the speed nor the force with which to beat the filling into proper position. This results in a visible thin place when the loom is restarted.

Looms which are not braked to stop quickly will, in most cases, stop with the reed against the fell of the cloth. The cloth, acting as a braking motion, will exert the resistance necessary to expend the force of momentum. The weaver could bring the lay to position through the use of the shipper, and in doing so, may not allow for enough speed or force with which to beat the filling up closely into the cloth. This adds to the original crack, and the thin place be-

By S. A. PROKUSKI

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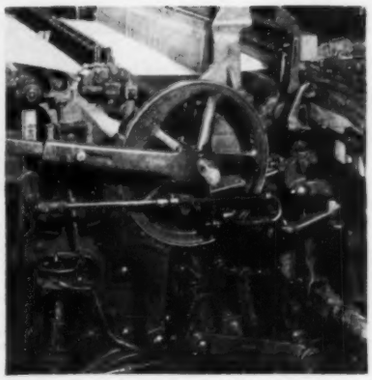


Adjustments may be made on the whip roll controls to produce an evenly balanced tension on the top and bottom of shed.

comes more prominent.

Improperly set driving clutches or friction plates are also responsible for cracks and thin marks.

If the clutches on loom drives or cork inserts on a friction drive plate are worn or do not make proper contact, the result will be a slow loom start. If the shipper is sluggish or the friction plate is set too closely, the loom will continue to decelerate for several picks after indication for a stop has been made.

On the other hand, if the loom brake drags or the loom motor is not of sufficient horsepower, the loom will not start with the speed necessary to beat the filling in properly. These conditions add greatly to the making of cracks at the start-up.

In order to avoid a big portion of thin marks at the start up it is well to instruct weavers to start loom as follows:

A. Bring lay to position by use of the handwheel, *turning loom back*. B. Correct cause of loom stop. C. Bring lay to back center. D. Start loom with shipper.

Starting a loom in this manner allows for the development of speed and force for the distance from back to front center, and the beating-up of the filling is more nearly average. This is not the remedy, but only a necessary expedient.

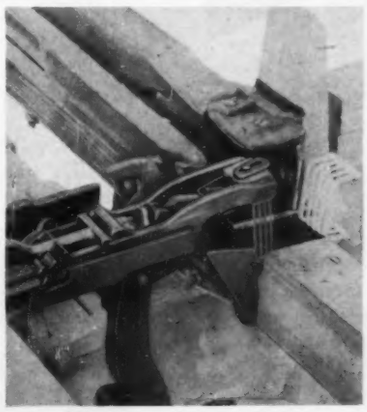
Thick or Heavy Marks. This type of starting mark is predominantly a result of filling breaks, run-outs or faulty filling stop motion. It is characterized by a uniform streak of closely beaten up filling through the entire width of the cloth. In many cases it is not discernible on the loom. Consequently many of these defects get into the cloth. They are especially noticeable on looms equipped with side filling motions. Cam looms and dobbies add very much to the possibility of making these defects. Looms equipped with center filling motions and Knowles heads are more suited to weaving gabardines with a minimum of heavy start marks.

On looms with side filling motions, if the filling breaks or runs out when the shuttle is picked from the shipper side, detection by the filling fork will occur only after the loom has turned for almost two picks. Even though the loom brake is working correctly, the loom will stop when the reed has beaten up the filling three times. If the take-up release is working properly, the sandroll will not wind the cloth during this period. Thus, the cloth remains at this position and the reed is beating against the outer picks of filling at the fell of the cloth.

These picks become crowded closer together and are no longer spaced with the same ratio as are the body picks per inch. The result is a thick or heavy streak. While all breaks or run-outs do not occur just at this point, in all cases there are at least two beat-ups before the loom stop. This is enough to make a defect, but if the loom brake does not work to stop the loom quickly, the thick mark is made more prominent.

Weaving rayon-wool gabardines with side filling fork motions and with cams or dobbies for the shedding motion further increases the possibilities of heavy starts. Additional beating-up results from the necessity for finding the correct pick before starting the loom. It is mandatory for the weaver to pick the loom over until the correct sequence of picks is found. If this is not done a mispick will result. This, of course, increases and emphasizes the heavy place.

Side filling motions may permit loom to run for two picks when filling breaks. Center filling motions are recommended.



It may be necessary to increase the number of banks of drop wires instead of using a heavier wire when the warp yarns are crowded.

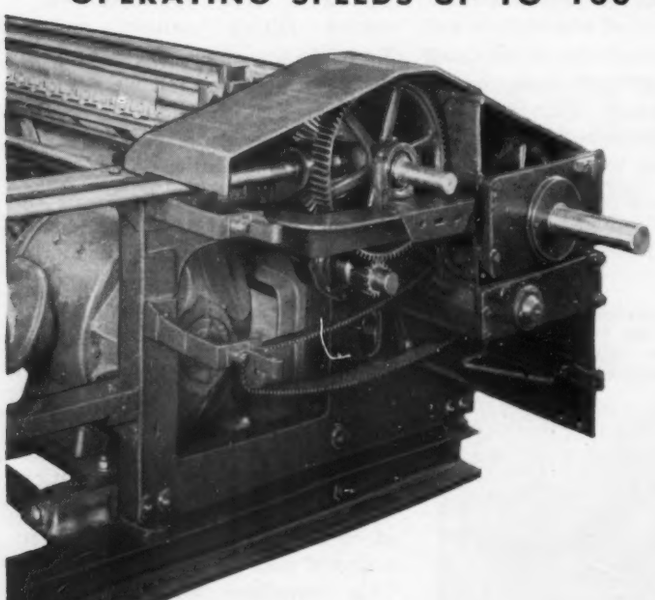
Weaving this fabric with a combination of side filling motions and dobby or cam looms is in reality an invitation for much second quality cloth. The application of a center filling motion and a Knowles shedding motion presents the ideal combination for weaving this fabric.

When operating correctly, the loom is stopped at the precise pick at which the filling broke or ran out, or at the next pick. Because of the type of shedding motion used, the weaver does not turn the loom to match the sequence of picks. Disconnecting a clutch, the head motion is easily turned by means of a handwheel. This brings the harness shafts up and down as called for by the pattern chain. The loom remains stationary until the correct pick is found, at which time the clutch is reengaged and the loom is restarted. This procedure reduces the number of filling beat-ups, and thick marks are greatly reduced. But it still must be remembered that loom brakes must be operating with precision, otherwise these advantages would be nullified.

(*Continued on page* 209)

A HI-SPEED HEAD END WITH A MIND OF ITS OWN

MULTI-MOTOR DRIVE AND ACCURATE CONTROL HOLD PRE-SET YARN TENSION CONSTANT AT OPERATING SPEEDS UP TO 100 YARDS PER MINUTE



The WPF&M Hi-Speed Head End is constructed throughout for heavy duty service. Gearing is simplified and eliminates frictional losses of old style clutches and speed cone drives. Drive and motors are completely covered, fully protected from lint and dirt.

Here's a Head End, equipped with Multi-Motor Drive, that accurately controls yarn stretch and tension at running speeds ranging from 20 to 100 yards per minute; a creep speed of four to six yards per minute.

In place of old style friction, an individual motor winds the beam. Individually driven slasher rolls are synchronized by the Drive and controlled by a rheostat.

Indicating meters can be quickly and accurately pre-set to any desired yarn tension. Once set, tension remains constant—all beams are wound uniformly tight—from start to finish. After proper tension has been determined for a particular grade yarn, it can be duplicated at any time by merely setting the rheostat.

Elimination of costly guesswork adjustments means a better quality finished product . . . increased loom efficiency.

We will be glad to send you detailed information of this Head End's many other advantages . . . or make a survey in your slasher room if you desire.

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

NACM officers at York Harbor convention. Ellison McKissick, head of ACMI, in center. Russell Fisher of NACM pledged united effort between NACM and the newly-formed ACMI.

NACM Elects Officers at York Harbor

Staff Report

ATTRACTING more than 300 leaders of the textile industry, the National Association of Cotton Manufacturers convened at York Harbor, Me., September 22 and 23.

Russell T. Fisher was re-elected president of the association for the 13th consecutive term. Frank W. Lyman, Fitchburg Yarn Co., Fitchburg, Mass., was elected first vice-president. He will represent the association on the board of the newly organized American Cotton Manufacturers Institute which will be the central trade association of the textile industry.

Lawton S. Brayton, Sagamore Manufacturing Co., Fall River, Mass., was elected second vice-president.

Directors elected were: Robert Braun, Bates Manufacturing Co., Lewiston, Me.; Kenneth B. Cook, Crown Mfg. Co., Pawtucket, R. I., and Wamsutta Mills, New Bedford, Mass.; Ralph T. Marshall, Utica and Mohawk Cotton Mills, Utica, N. Y.; Norman T. Thomas, Naumkeag Steam Cotton Co., Salem, Mass.; J. Linzee Weld, Textron, Inc., Boston.

Highlights of the convention's panel discussion were:

Robert J. McConnell, Whitin Machine Works: "Today textile machinery is being made with closer tolerances than ever before and the trend will continue until all types of textile machinery will come under the precision class."

J. B. Quig, E. I. du Pont de Nemours & Co., Inc.: "Great versatility and low price assure the future of rayon. Textile markets are not static and they require not only greater quantities but different kinds of fabrics in a changing and advancing economy."

Sid Y. West, S. Y. West & Co.: "There will be a sufficient quantity of staple cotton to supply the needs of domestic mills for the coming season. Machine picking will reduce the price of raw cotton, placing it in an extremely attractive competitive position with other fibers. The movement westward to irrigated cottons will eventually yield a cotton grown to mill specification."

Gordon W. Rule, Textile Industry Committee on Foreign Trade: "With respect to the world dollar shortage, perhaps the most important way (to get more dollars earned abroad without a continuance of some form of government assistance to other countries) is to import more goods into the United States from abroad."

Richard W. Logan, Chas. T. Main, Inc.: "It would be advisable to convince the tax authorities that deductions for depreciation should be based on replacement cost rather than original cost."

D. Harry Angney, Federal Reserve Bank of Boston: "The opinions of (New England) textile manufacturers about community attitude, character of labor force, relations with labor, and wage rates are significant for current and future action. These relationships do not have unchangeable geographic characteristics. They are man-made conditions which may be alleviated by mutual cooperation and understanding."

Sports activities were cancelled due to rain after the meeting.

NOVEMBER

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They cheer each loss and cheer each gain
But this fair lassie has no woe
She'll win for sure---with DuraBeau*

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27	28	29	30			

*DURA BEAU finishes give milady's hosiery that smooth, delicate, smoky-dull, ultra-sheer touch of beauty . . . the film of protection that adds not only eye-appeal but definite resistance to snags, runs, pulls and spots . . . DURA BEAU is the finish that gives fine hosiery more DURAbility . . . more BEAUty !

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Brighter Business Outlook

Keynote of Hosiery Meet

Staff Report

AT THE MEETING of the Southern Hosiery Manufacturers Association, held at Hotel Roanoke, Roanoke, Va., Sept. 9 and 10, Dr. Charles W. Williams, vice-president of the Federal Reserve Bank of Richmond, told those present at the opening session of a brighter business future for the textile industry in general and the hosiery industry in particular. Dr. Williams, an economist of national note, pointed out that the textile industry had been the bellwether in the recession and may prove to be the bellwether in the recovery.

Other speakers at the meeting included Col. E. W. Palmer, president of the Kingsport Press and regional vice-president of the National Association of Manufacturers; T. O. Moore, vice-president of P. H. Hanes Knitting Co., Winston-Salem, N. C.; R. K. Handley, regional director of the Bureau of Apprenticeship, Department of Labor. All of them spoke in an optimistic vein of the business outlook for hosiery manufacturers.

Taylor R. Durham, president and secretary of the Association delivered his annual report to more than 400 delegates assembled from 13 southern states. He too felt that "the future economy of the country as a whole and conditions in the hosiery industry in particular are taking on a brighter hue."

New Officers. T. F. Dooley, of Johnson City (Tenn.) Mills, was elected chairman of the board of directors of the Association to succeed Joseph Turbidy of Rome (Ga.) Hosiery Mills. Taylor R. Durham was re-elected president and secretary, and Fritz Seifart, Hudson Hosiery Co., Charlotte, N. C., will again hold the post of treasurer.

C. L. Amos, Melrose Hosiery Mills, High Point, N. C., was elected vice-president of the Association and chairman of the seamless division. W. W. Couch, Jr., Durham (N. C.) Hosiery Mills, was made vice-president and chairman of the full-fashioned division.

Both of the new vice-presidents will serve on the board of directors for three year terms. J. F. McCrary, Acme Hosiery Mills, Asheboro, N. C., who was a vice-president last year, will continue on the board for two more years. William Nebel, Nebel Knitting Co., Charlotte, N. C., was also elected to a two-year term on the board.

Re-elected members of the board are L. C. Davis, Jr., Hiwassee Hosiery Mill, Cleveland, Tenn.; W. W. Neal, Jr., Marion (N. C.) Hosiery Mills; and Norman Illges, Shannon Hosiery Mills, Columbus, Ga.

The president's Dinner of the Southern Hosiery Manufacturers Association held in Roanoke, Virginia, recently. Officers and members of the board of directors present are (left to right around the table): **A. L. Shuford, Jr.,** Conover (N. C.) Knitting Co.; **William Nebel,** Nebel Knitting Co., Charlotte, N. C.; **J. E. Baker,** Baker-Cammack Hosiery Mills, Burlington, N. C.; **P. W. Eshelman,** Wilkes Hosiery Mills Co., North Wilkesboro, N. C.; **R. O. Huffman,** Morganton (N. C.) Full Fashioned Hosiery Co.; **W. W. Couch, Jr.,** Durham (N. C.) Hosiery Mills; **L. C. Davis,** Davis Hosiery Mills, Cleveland, Tenn.; **C. S. Kincaid,** Magnet Mills, Clinton, Tenn.; **J. L. Turbidy,** Rome (Ga.) Hosiery Mills; **Taylor Durham,** president of Southern Hosiery Manufacturers Association, Charlotte, N. C.; **T. F. Dooley,** Johnson City (Tenn.) Mills; **Clyde W. Gordon,** Standard Hosiery Mills, Burlington, N. C.; **Charles Amos,** Melrose Hosiery Mills, High Point, N. C.; **G. C. Furr,** Burlington Mills, Greensboro, N. C.; **W. W. Neal, Jr.,** Marion (N. C.) Hosiery Mills; **Robert P. Shapard, Jr.,** Spalding Knitting Mills, Griffin, Ga.

Looping and Seaming Machines

Operation and Maintenance

Article 2

By S. H. BOYER
Wisteria Hosiery Mills

THIS IS the second installment of the series of articles on looping and seaming machines. In this article the author continues his discussion on the Sotco steady dial looper. Dismantling and assembling the machine is covered thoroughly.

THE CHAIN CLIPPER is an important addition to the Sotco looper, and no machine should be considered complete without it. The clipper will save many times its cost by increasing production.

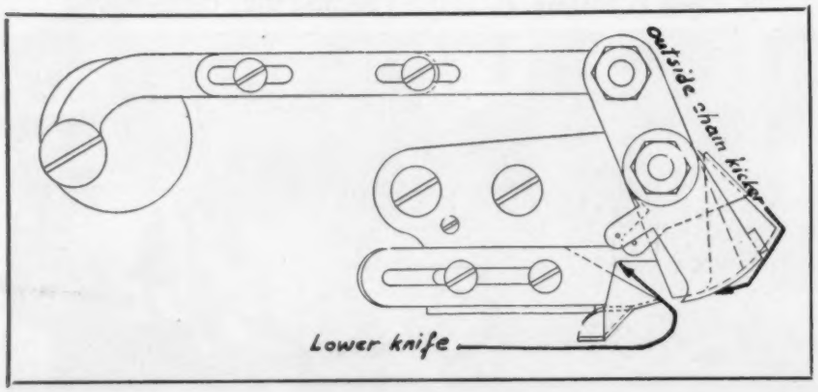
To obtain best results from the clipper, the stockings should be spaced approximately three-quarters of an inch apart. Select the machine speed that suits the operator best to make this spacing. The outside chain kicker should be set with about three thousandths of an inch clearance above the points, or upper edge of the brass ring. The lower knife should be set in a position that gives the desired length to the chain left on the edge of the stockings.

The cutting assembly of the chain clipper can be raised or lowered by loosening the knife bracket clamp screw. After each adjustment, check the clearance between the points and chain guard, by using a three thousandths thickness gauge, or a piece of thin paper as a feeler to prevent damage to the brass ring.

Changing the Gauge of a Sotco Looper. If it is desired to change the gauge of a looper, the work can be easily done if instructions are followed closely. When the change-over sets are ordered from the factory, specify the present gauge of the machine and also state the gauge of the change-over set. The factory will then advise as to the extra parts and gears necessary.

There will be occasions when it will be necessary to change dial rings even though no change in gauge is desired. When the brass has become so badly worn that it can no longer hold the points firmly, it is usually advisable to renew the dial ring by replacing it with a new one. In this case, unless the gears are badly worn, it is not necessary to order anything except the dial ring.

The outside chain kicker should be set with approximately three thousandths of an inch clearance above the points, or upper edge of the brass ring. The lower knife should be set in a position that gives the desired length to the chain left on the edge of the stocking.



Above, brush assembly removed as a unit. Below, looper hook attachment removed as a unit.

Have your Fire Fighting Equipment Inspected Regularly

For instant response to emergency call, test fire fighting equipment regularly.

Have your Full-Fashioned Knitting Machines checked—regularly—to keep them at highest efficiency . . . Follow a regular program for reneedling and your needle bars are always in shape for better knitting . . . Follow a regular program for reconditioning and your plant is always at peak performance. We will be glad to discuss this matter of regularity as it applies to your mill operation.

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Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

Dismantling the Machine. In dismantling the machine preparatory to rebuilding it, much time can be saved if complete units are removed instead of individual parts. First remove the needle, and in the following order remove the trimmer and brush assembly, fabric guard assembly, looper hook attachment, dial ring assembly, and then remove the dial ring from the race assembly.

A good vise and a convenient work bench for holding the parts will be of great assistance to anyone attempting to do a dial replacement job on a looper.

Dismounting the Trimmer and Brush Assembly. In removing the trimmer and brush assembly, first loosen the trimmer connecting driving disc which must be slipped off the end of the main shaft. Loosen the trimmer gear set screw and remove the two trimmer base clamp screws from underneath the dial race. The trimmer gear shaft can then be pulled out of the bearing on the left end of the looper, and the entire trimmer assembly removed from the machine.

The fabric guard assembly is removed by taking loose the two arms, and then unscrewing the two fabric frame support screws in the base of the looping machine.

The Looper Hook Attachment. The looper hook attachment is removed next. It is a good plan to scribe the outline of the bracket as it rests on the dial race before loosening it, for it can then be replaced quickly. This is especially desirable if the machine has been operating satisfactorily before the overhaul was started. In scribing the outline, do the marking lightly so as to not mar the finish permanently.

Without loosening any other connections, remove the shoulder screw from the looper hook actuating cam connection. Use a 7/16-inch box end wrench to remove the looper hook actuating cam bracket screws from underneath the dial race. The attachment can now be removed through the left side of the frame.

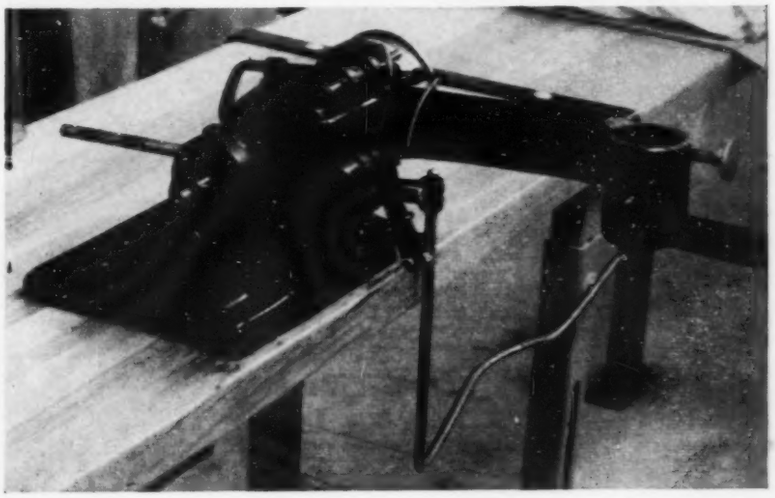
The Dial Driving Shaft. First loosen the main drive gear locating screw, which is spotted deep in the shaft and must be almost entirely unscrewed before it will release. Loosen the dial driving gear set screw, then drive the shaft to the back of the machine. Remove the dial driving gear from the casing.

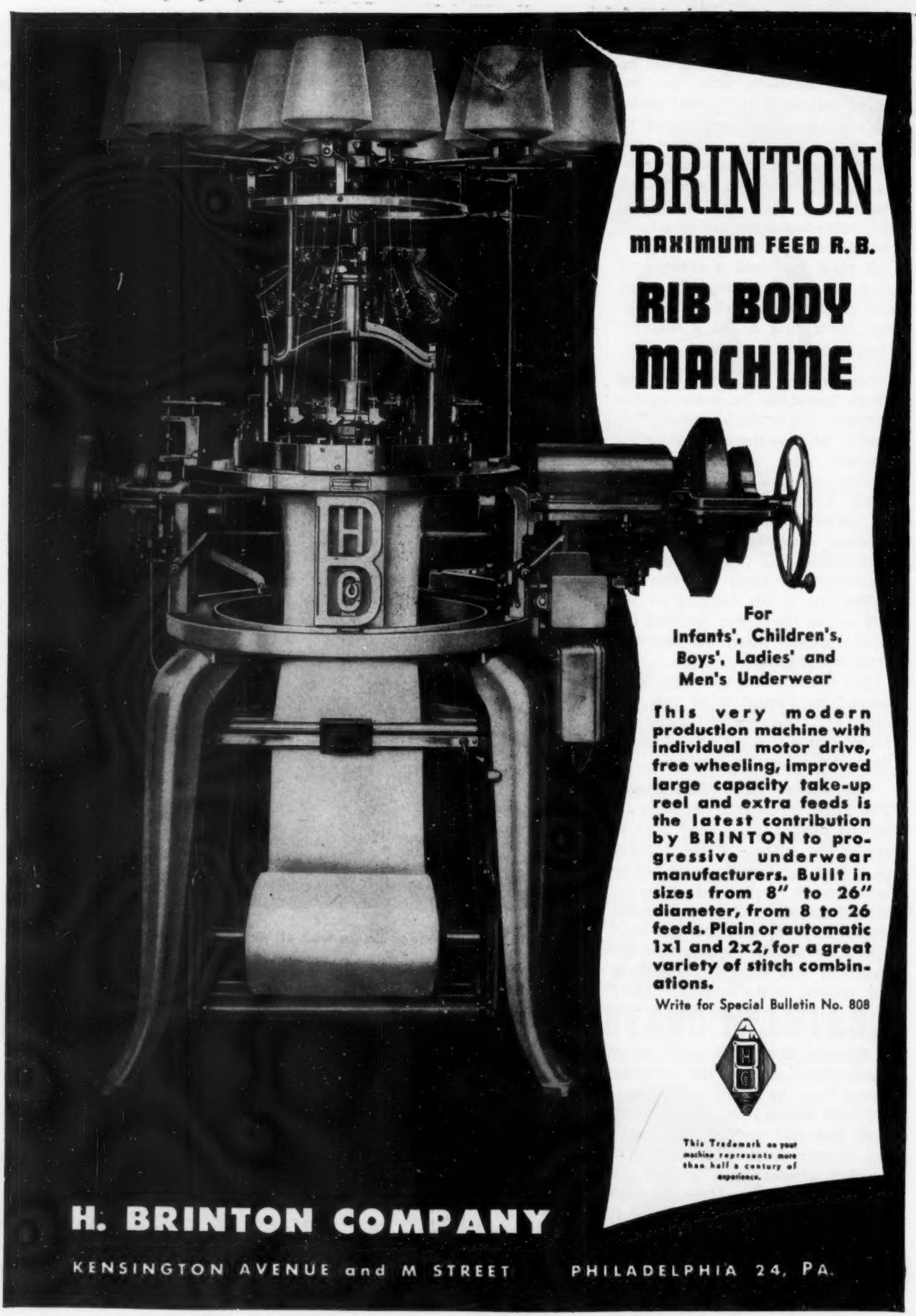
Other Parts, Including Dial Ring and Race. If the gauge of the looper is being changed, it is best to remove the two taper pins from the worm shaft bearing. It will be necessary to relocate the bearing in adjusting the dial worm to fit the new worm wheel because it is part of the change-over set. The pins must be driven up from the bottom of the dial race. The hole in the worm shaft bearing cup should be plugged to stop oil from leaking through it, otherwise the taper pin will not go back in it after the bearing has been moved.

Remove the rack guard and the worm gear guard from underneath

The dial is held in a vise, showing dial ring fitted to the dial race. The vise is clamped to a section of a looper table which makes a convenient work bench.

This looper frame is shown with all parts removed for rebuilding.

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the machine. The dial ring assembly and dial race assembly can now be loosened from the supporting frame of the looper. First, remove the name plate, then use a soft hammer to drive out the taper pin that is driven through the dial race to support the dial race stud. Be sure to support the dial ring and race assembly before loosening the dial race set screw, as the stud may slip from the bearing and allow the entire assembly to fall.

The dial ring assembly and the dial race is placed in a vise by clamping the dial adjusting nut securely in the jaws of the vise, leaving the dial ring in an upright position where it can be easily overhauled.

Take out the three screws that hold the clamp ring to the dial race, and then lay the clamp ring aside. Gently slide the dial ring assembly up from the dial race. Remove the worm and worm wheel after loosening the two set screws in each part. The dial driving pinion and shaft can now be removed from the bracket. Give the dial race a thorough cleaning to remove any grease and sludge that would interfere with the fitting of the new parts.

Fitting the New Dial Ring. The new dial ring should be thoroughly cleaned and tried on the dial race. Usually it will need scraping with a bearing scraper before it will fit. Do not rush this part of the job. The first thing to do is obtain a sharp bearing scraper; never use a file or emery cloth on this part of the machine.

Lay the dial in an upright position on a flat table or work bench, with a small segment of the dial ring projecting over the edge. This position allows a bearing scraper to be worked up from underneath the inside of the dial ring, while supporting the ring with the other hand. Scrape the inside of the ring evenly, and gradually remove a few thousandths of an inch from the inner surface. Do not remove too much metal, but try it frequently for a fit to the race.

After the dial ring has been fitted to the dial race, replace the clamp ring, tighten the three screws lightly, and try to turn the dial ring by hand. More than likely, it will bind and require scraping of the bearing underneath the clamp ring. The dial ring must turn freely, but without up and down play when the dial clamp ring is securely tightened.

In scraping the bearing beneath the clamp ring, again try frequently for a fit. Be sure that the dial does not bind at any place after the clamp ring is tightened. When a satisfactory fit has been obtained, remove the dial ring, clean it and the race carefully, oil the race with a good grade of sewing machine oil, then complete the dial ring assembly to the race. Tighten the clamp ring.

Pinion and Change Gear. The new pinion and change gear (worm wheel), which is part of the change-over set, is assembled in the bracket, and the set screws are then tightened securely. It is not necessary to remove the bracket from the dial race for the change.

The pinion should mesh snugly with the teeth in the iron ring, but should not bind. There are three clamp screws and three adjusting screws in the bracket, and by means of these screws any desired adjustment of the pinion is possible. The screws with the largest heads are the clamp screws, and the ones with the small heads are the adjusting screws.

The clamp screws draw the pinion closer to the teeth in the iron ring, if tightened; and the adjusting screws push the pinion away from the iron teeth, when tightened. A perfect fit can be obtained by properly adjusting all six screws in the bracket. No backlash should exist between the gears or the needle cannot be timed properly to the points in the dial.

The dial ring and race assembly can be removed from the vise and assembled to the frame. The taper pin, which holds the dial race stud to the frame, should be driven in the tapered hole for a snug fit, then tighten the set screw on the side of the frame. Install the name plate.

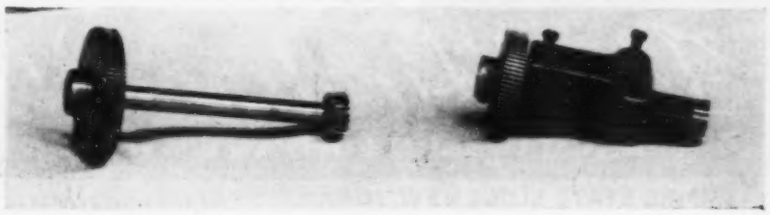
The dial driving shaft should now be driven back in place, making sure that the dial driving gear is correctly installed; tighten the set screw in the main drive gear firmly in place in the dial driving shaft. Do not tighten the dial drive shaft bearing screws yet.

It is assumed that the dial driven gear and worm shaft have been left in the bearing. The worm gear should now be put on the shaft, and the two set screws tightened lightly. Loosen the worm shaft clamp nut, which is located underneath the machine, and adjust the worm gear to the worm wheel by moving the bearing bracket to the front or back of the dial race as required. Check the worm wheel and make sure that no back-lash develops. The gears must not bind or be too tight.

Adjust the dial driven gear to the dial driver gear by moving the worm shaft bearing bracket to the right or left. A snug fit must exist between the gears without causing binding. It should be remembered that when the bearing is moved, it will also affect the fit between the worm gear and the worm wheel. After the adjustment has been completed, carefully check the dial for backlash, then turn the crank to make sure that the gears do not bind.

The dial driving shaft must not

The new 32-point change gear and pinion (right), and the old 38-point pinion and change gear (left) removed from the bracket.



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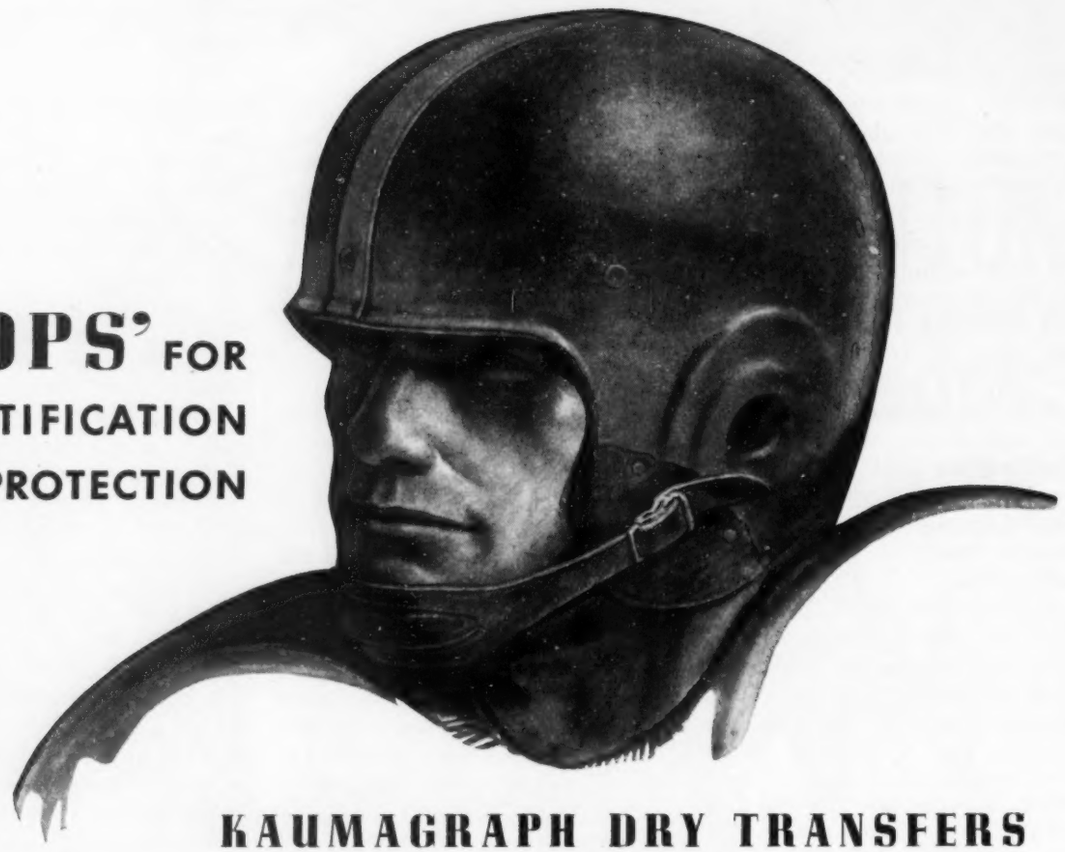

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be forced out of line while making this adjustment. When a good fit has been obtained between the gears involved in the change, securely tighten the worm shaft clamp nut. Replace the two screws in the dial driving shaft bearing, allowing the shaft to remain in a natural position. The machine should now turn freely by hand without any perceptible binding or tight places.

The rack guard can now be replaced by fastening it on the under side of the dial race with three screws.

Replace the needle with the size recommended in the needle chart. Insert the needle in the needle clamp and then check the needle setting.

Checking the Needle and Dial Setting. When the needle has reached the end of its backward stroke, turn the crank slowly to avoid hitting the brass with the needle point. When the needle has reached the end of its forward stroke, the start of the taper should be slightly in back of the place where the stitch is picked up on the points. If the needle is not in this relative position, loosen the clamp on the needle arm and correct the needle setting.

When the needle has reached its forward position, lean over the machine and sight the base of the needle to make sure that it is exactly in the center of the groove in the point. It is best to keep both eyes open and sight past the needle arm; this will prevent getting a distorted view of the relation between dial and needle.

If the small part of the needle, which is just in front of the taper, does not line up with the point groove, loosen the two set screws in the worm and turn it to the left until the alignment is correct. Tighten the set screws in the worm gear. As a final check, try the worm gear for up and down play for the worm has a chance to slip down when the adjustment is made.

After the needle has been centered, turn the crank until the point of the needle is just entering the point groove. Now center the point of the needle by bending it to the left or right with the fingers. Have the point of the needle striking the point groove about three quarters of the distance up on the brass. Do not make it strike too hard because it will result in excessive wear on the point. The vertical adjustment of the needle is made by using the needle clamp adjusting screw.

Movement of the Needle. If the gauge of the machine has been changed, it will be necessary to adjust the needle arm cam lever bracket and fulcrum stud so that the lateral movement of the needle will exactly equal the distance between the centers of two points. This space is the distance the dial moves on each revolution of the hand-crank.

The needle arm cam controls the needle and is so designed that the rise and fall of the cam is equal to the movement of the dial on a 16-point looping machine.

This means that the bracket which supports the pivot for the needle arm cam lever has to be set in the exact center of the lever on a 16-point machine. As the gauge of the machine changes, the distance between the points changes, and it is necessary to change the lateral movement of the needle in direct proportion.

Moving the bracket back towards the operator decreases the needle movement; moving the bracket forward from the operator increases the needle travel. When making the adjustment, loosen the cam lever fulcrum stud nut, move the bracket forward or backward until the movement of the needle equals the movement of the dial per revolution. Tighten the stud nut first, then set the bracket so that the needle arm cam roller shoulder screw will clear the bottom of the cam. Tighten the bracket cap screw securely.

A quick method of setting the needle arm cam lever fulcrum stud and bracket, when changing the gauge of a machine, is to transfer the measurement from another machine if one of the desired gauge is nearby. For instance, the distance from the center of the cam lever fulcrum stud to the center of the needle arm cam roller shoulder screw, on a 32-point looper, is 2⅝ inches.

If a 38-point looper is being changed to a 32-point looper, for example, and another 32-point looper is nearby, simply transfer the measurement of the 32-point machine to the 38-point machine. In making this suggestion, it is assumed that the 32-point machine from which the measurements are taken, is in good working order.

To test the adjustment, turn the crank until the needle is all the way forward and in the center of the groove of a point. Turn the crank one revolution and ascertain that the needle is in the same position in the next point groove.

Gauging the Height of the Dial Ring. Turn the crank until the needle is at the end of its forward stroke, then try a 1/64-inch feeler gauge under the needle to determine if it clears the points. A 1/64-inch feeler gauge is about 15 thousandths of an inch thick. If a feeler gauge is not available, use one thickness of brown wrapping paper.

If an adjustment of the dial is necessary, loosen the two screws in the dial driving shaft bearing first; loosen the set screw in the dial race which holds it to the stud, then raise or lower the dial by raising or lowering the dial adjusting nut on the bottom of the dial stud. When the adjustment is complete, tighten the two screws in the dial driving shaft bearing. Also tighten the dial stud set screw above the dial race.

Installing the Fabric Guard. Install the fabric guard, allowing sufficient clearance between the inner edge of the guard and the dial for the kind of work being looped. Allow about two thousandths of an inch clearance between the guard and the bottom of the points to prevent excessive wear.

The fabric guard support has an adjusting screw for raising or lowering the part of the guard which carries the stitch finger swivel and needle plate. The other part of

For better laundry net, investigate the *Kidde Knitter*

Nylon net produced on the *Kidde* Knitter offers exceptional durability—plus these other features that laundries want:

1. The net is runproof, because each end is anchored. Even if snagging causes a hole, the hole will not spread.

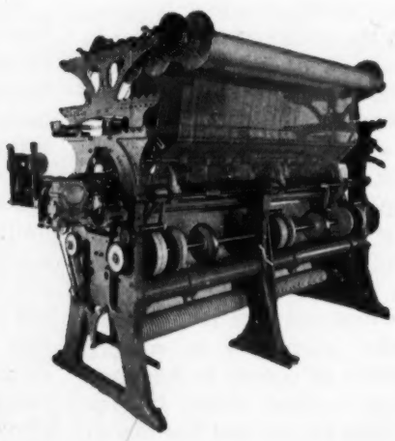
2. The net can be produced with large-size holes—giving better penetration by water and washing solutions than can be obtained with woven nets.

3. The holes will not close up when the net is full and under tension.

Of course, when you knit laundry net—or practically any other net—on the *Kidde* Knitter, you also get the advantage of *high-speed production*, with resulting savings in cost.

Use the Kidde Knitter on these fabrics too

ELASTIC FABRICS for corsets, girdles and brassieres. DRESS FABRICS. NETTINGS and VEILINGS. DISHCLOTH MATERIAL. CURTAIN FABRICS. NARROW FABRICS. SHOE CLOTH. KNITTED OUTERWEAR FABRICS for sweaters and polo shirts.



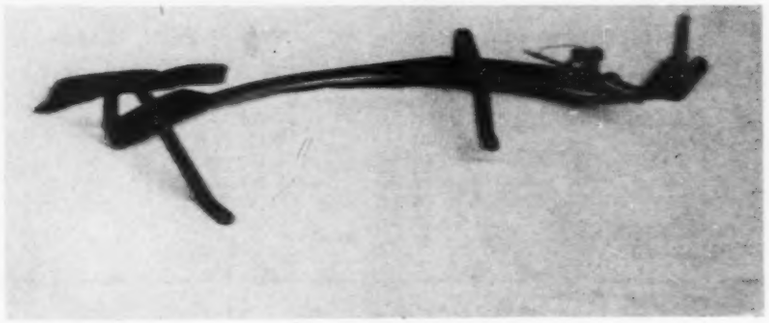
Free literature is available on the Kidde Knitter. Write for your copy.

The word "Kidde" is the trade-mark of Walter Kidde & Company, Inc., and its affiliated companies.

KIDDE MANUFACTURING CO., INC. • BLOOMFIELD, NEW JERSEY

the guard is adjusted by carefully bending the fabric guard holding arms until the correct clearance is obtained.

If the stitch finger has not been removed from the swivel, set the fabric guard support in such a position that the stitch finger will clear the needle by about 1/16th of an inch. This means that when the needle is all the way forward, that it will not touch the stitch finger at the place where the double bend is made. The needle plate must also be in such a position that it will support the fabric firmly on the points while the needle is picking up the stitch.



A view of the fabric guard and support showing the two arms.

Replacing the Looper Hook Attachment. Install the looper hook attachment bracket over the scribed marks suggested in the paragraph on the attachment. Otherwise, set the attachment in such a position that the throw of the hook is equally divided over the points. When the cam is at the end of its forward stroke, the position of the hook is back over the taper of the point clamps.

Turn the crank slowly until the needle passes inside of the hook at a point midway between the eyes. The point of the needle must not hit the hook. If it does hit the hook, the needle may be deflected from the point groove, thereby causing drop stitches in the fabric.

As the crank is rotated, causing the cam to be drawn backward, it throws the hook forward. When the hook crosses the stitch finger, it should have about 1/16th of an inch clearance. The point of the hook should go past the needle by about 1/16th to ⅛th of an inch at the end of its forward stroke, and when rising on its backward arc, should barely touch the scarf of the needle.

If the hook misses the needle as it begins the backward stroke, the bracket screw nearest the dial stud should be loosened and the back end of the attachment shifted slightly to the right, which will cause the looper hook to move closer to the needle. If the hook is too close to the needle, loosen the bracket screw nearest to the dial points and shift the attachment to the right. This adjustment will give more clearance between the hook and scarf of the needle.

Each time an adjustment is made, the crank must be turned slowly to check both the front and back setting of the hook in its relation to the needle.

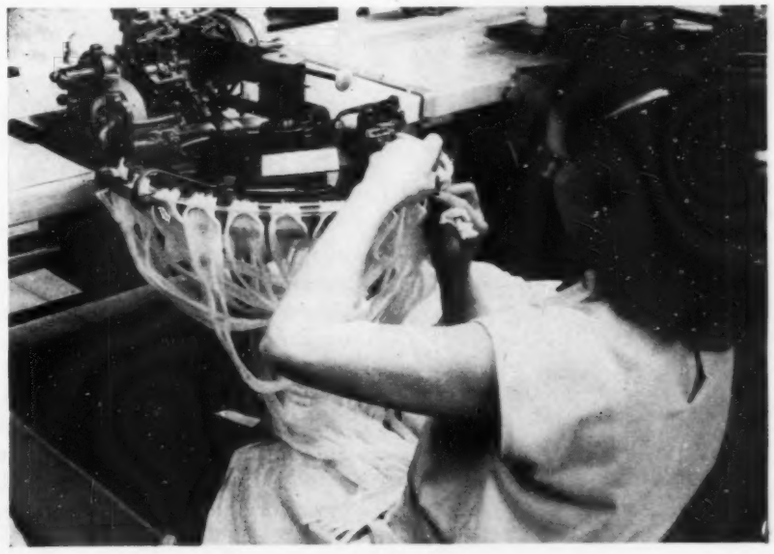
When the crank is turned and any binding is noticed as the cam reaches the end of its backward stroke, it means that the stroke is too long, and that the connection at the cam swivel must be shortened. If the hook does not go below the needle, it means that either the stroke is too short or that the looper hook shank is not set correctly.

In removing the attachment, it is usually best to remove the shoulder screw from the connection rather than unscrew the cam connecting swivel. The only disadvantage of taking out the shoulder screw will be that if the hand crank is then turned, the cam eccentric strap must be held in a position that will allow the machine to revolve.

Setting the Brush and Trimmer Assembly. Remove the brush from the trimmer, then place the bracket in such a position that the curvature of the guard will conform to the curvature of the dial ring. When the trimmer is set correctly, fasten it securely to the dial race with the two base screws.

Replacing the Chain Clipper. Replace the chain clipper and check the outside kicker, and also the chain guard to be sure that they

Shown in the illustration is a 32-point looper that has been changed from a 38-point machine. Note the correct spacing of work on the points.



Size of Needles to be Used		Size of Stitch Fingers
Needle Size	Gauge of Looper	
00000	38 point	00 for use on 32 to 38 pt.
0000	36 point	0 for use on 28 to 30 pt.
000	32 to 34 pt.	1 for use on 22 to 26 pt.
00	28 to 30 pt.	2 for use on 18 to 20 pt.
0	24 to 26 pt.	
1	20 to 22 pt.	
2	16 to 18 pt.	

clear the brass ring by about 3 thousandths of an inch. A piece of thin paper can be used as a feeler between the chain guard and brass ring.

Starting the Looping Machine. The machine should now be properly threaded. The needle adjustment, looper hook setting, stitch finger setting, and trimmer knife setting should be carefully rechecked before applying power to the machine. All parts should be oiled before running the machine or placing it in service.

The tensions for the thread will have to be adjusted to suit the style of fabric and the class of thread being used. Generally, it is good practice to have the thread feed off the cones at an equal rate of speed.

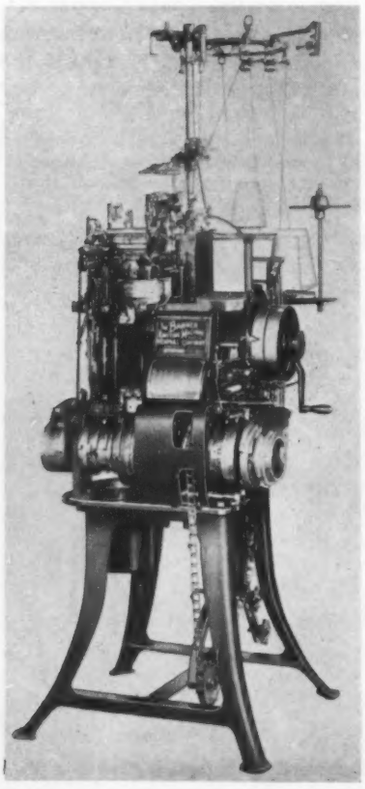
Careful study and patience will eliminate any small defects that may arise from overhauling the machine. With proper care, the machine will give years of satisfactory service.

Gauge of Loopers to be Used On Full Fashioned Hosiery	
42 f.f. gauge	24 or 26 pt .looper
45 f.f. gauge	28 or 30 pt. looper
48 f.f. gauge	30 pt. looper
51 f.f. gauge	32 pt. looper
54 f.f. gauge	34 pt. looper

Speed of Looper. A speed of 220 rpm for inexperienced operators seems to be satisfactory, but the speed should be built up rapidly. A four or five speed pulley is desirable on a lineshaft. A speed of 375 rpm is suggested for fast operators.

(To be continued)

Versatile Men's Hosiery Knitter



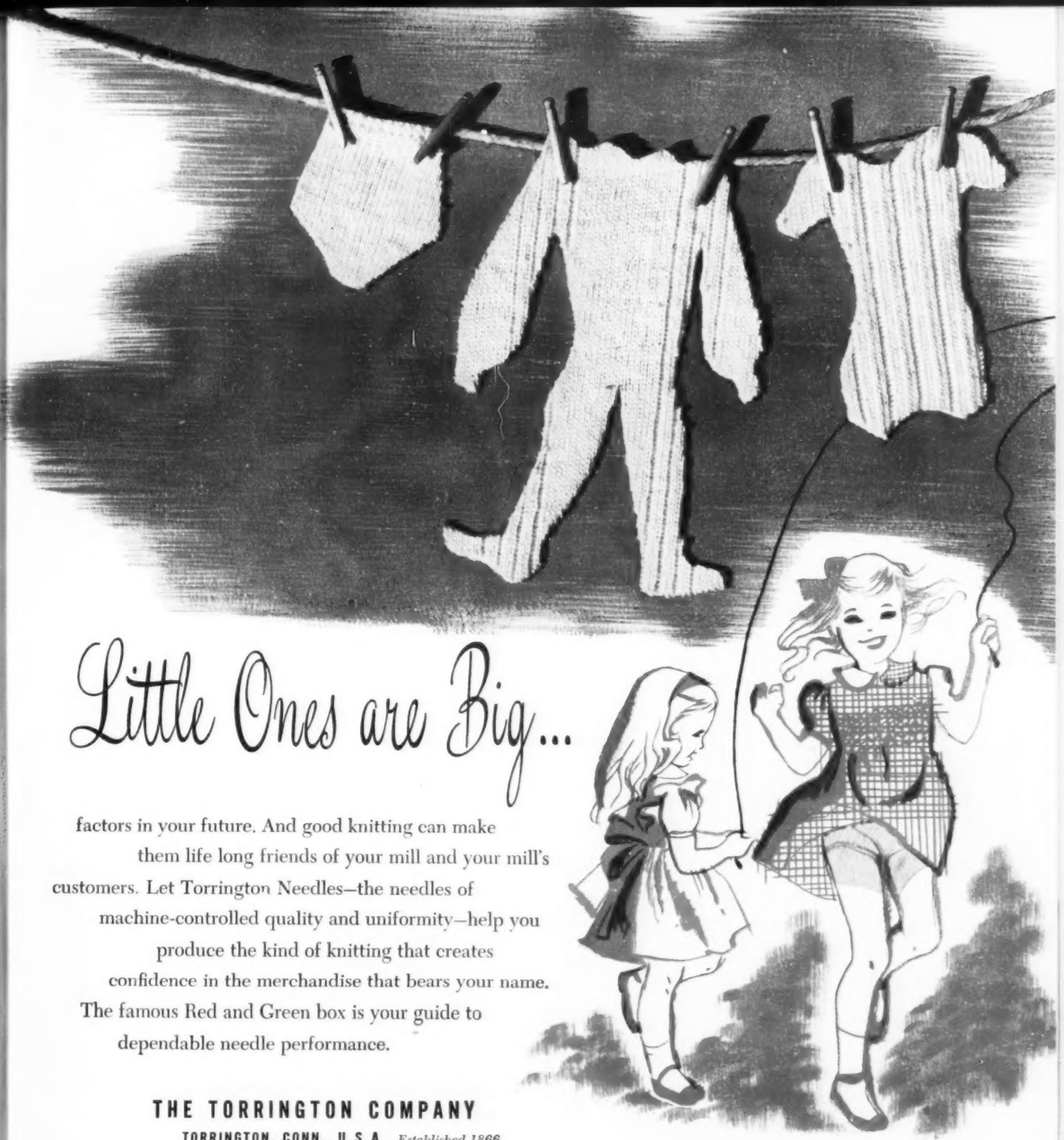
A new, low-priced, fast producing, simply operated knitting machine, known as the "Vari-Pattern," has been developed for the production of men's and boys' half-hose with elastic top, wherein the patterning scope encompasses innumerable designs.

The Model HTF-49 machine will be constructed in the three standard sizes—namely, 3¼", 3½" and 3¾"; and four gauges—18, 24, 36 and 48. First production will consist of the 3½" diameter, 160-needle, 36 gauge. Other sizes and gauges will follow.

The machine operates with identical ease, using cotton, wool, rayon, nylon, etc. The above mentioned sizes will manufacture boys' hose from size 7 up to men's hose size 13. Yarn counts can be used from 1/5 to 1/24 cotton or the equivalents in other fibers. The normal production of the machine is up to seven dozen in eight hours on men's size 11 produced on a 3½", 36 gauge.

Considering the vast scope of designing possibilities, the Vari-Pattern is comparatively simple to operate and maintain. It is claimed that one knitter can operate an unusually large battery with ease. The pattern scope of the machine is vast, can easily be calculated and quickly changed. Patterns are controlled by disks which can be changed with ease at very little cost. This feature results in a greatly enlarged scope for pattern design without high change-over costs. Patterns utilizing eight different colors can be achieved.

Individual and independent control of the pattern on each of the two feeds is an outstanding feature. There is a total of nine yarn fingers on the machine. There are seven on the main or regular feed; one controls the heel and toe; one controls the top; and the horizontal striper controls five levers, one of which can be utilized for a tipped heel and toe in a different color or reinforced



Little Ones are Big...

factors in your future. And good knitting can make them life long friends of your mill and your mill's customers. Let Torrington Needles—the needles of machine-controlled quality and uniformity—help you produce the kind of knitting that creates confidence in the merchandise that bears your name. The famous Red and Green box is your guide to dependable needle performance.

THE TORRINGTON COMPANY

TORRINGTON, CONN., U. S. A. *Established 1866*

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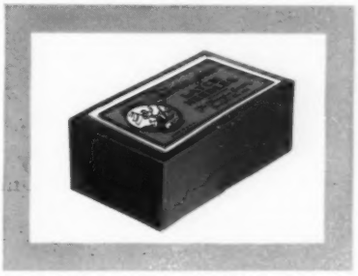
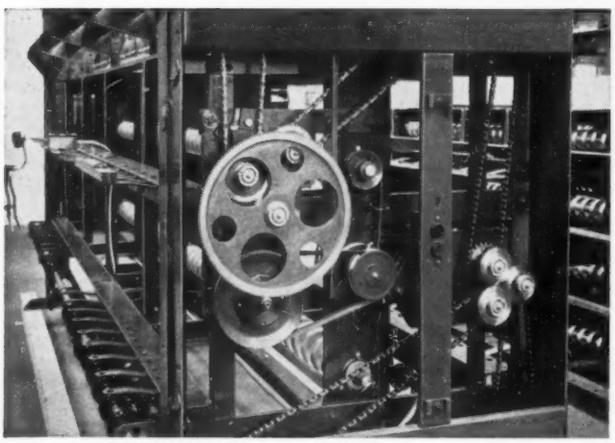
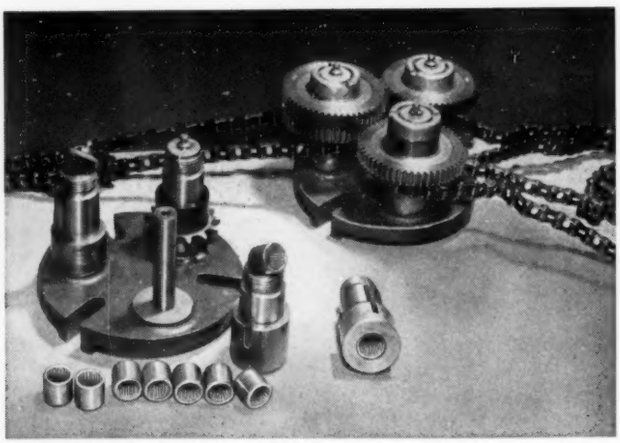


There's a TORRINGTON Needle for every type of Knitting!

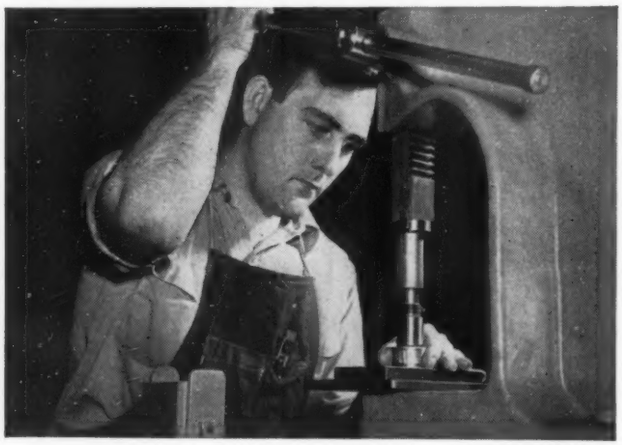
Torrington Needle Bearings simplify design and lubrication in Arnold Rubber Covering Machines



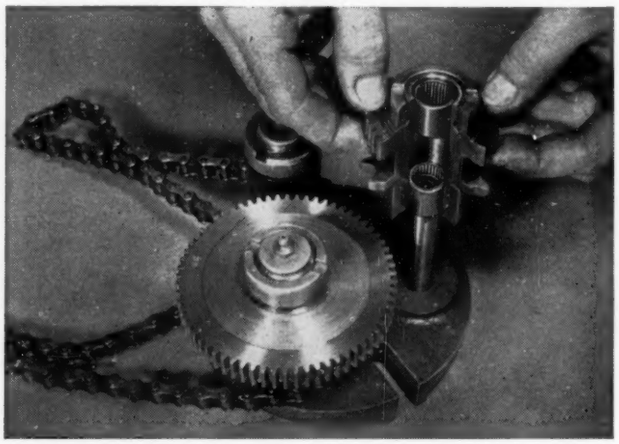
The H. H. Arnold Co., Inc., stresses simple design, rugged construction and easy maintenance on its machines, for covering rubber with cotton, rayon, or nylon yarn. The use of 28 Needle Bearings in the drive gears has helped satisfy these requirements.



Simplicity of the components of a gear assembly is apparent. Two Needle Bearings in each gear provide unusual stability. They reduce wear, keep gears in line. The turned-in lips of the outer shell retain oil, and reduce the frequency of lubrication.



Easy installation of Needle Bearings by a simple arbor press operation is another important advantage. The unit design facilitates handling. And because Needle Bearings take a firm press fit in the machined bore, they require no spacers or retainers.



Cutaway of the gear shows how entire unit is slipped over a hardened and ground shaft on which the Needle Bearings operate. Needle Bearings can be used in pinions of smaller diameter than is possible with any other type of anti-friction bearing.

This is only one example of the simplicity and efficiency secured in all types of textile machinery with compact, high-capacity Torrington Needle Bearings. Let our engineers help you adapt them to your equipment for better operation and longer service life. Write us today. THE TORRINGTON COMPANY, Torrington, Conn., or South Bend 21, Ind. District offices and distributors in principal cities of United States and Canada.

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller

Straight Roller • Ball • Needle Rollers

heel and toe. One yarn finger is used for the elastic and one yarn finger is for the auxiliary feed. The elastic top has a rubber control for knitting elastic every course or every other course and a single edge with four rounds of elastic in the first course.

There are a total of twenty steps on each feed divided as follows: one step for the plain sole, one step for the selection of the elastic and eighteen steps for patterning. There is a 48-move pattern drum at each feed with double move control, and 96 moves can be utilized in the patterning. All the vital adjustments are accessible to the fixer from the front of the machine, thereby simplifying alterations for changes in styles and patterns.

The Hemphill Co., Pawtucket, R. I.

For additional data, request item K-201, using business reply card on page 206.

Flat Inspectors in Knitting Department Post Full-Fashioned Knitters on Quality

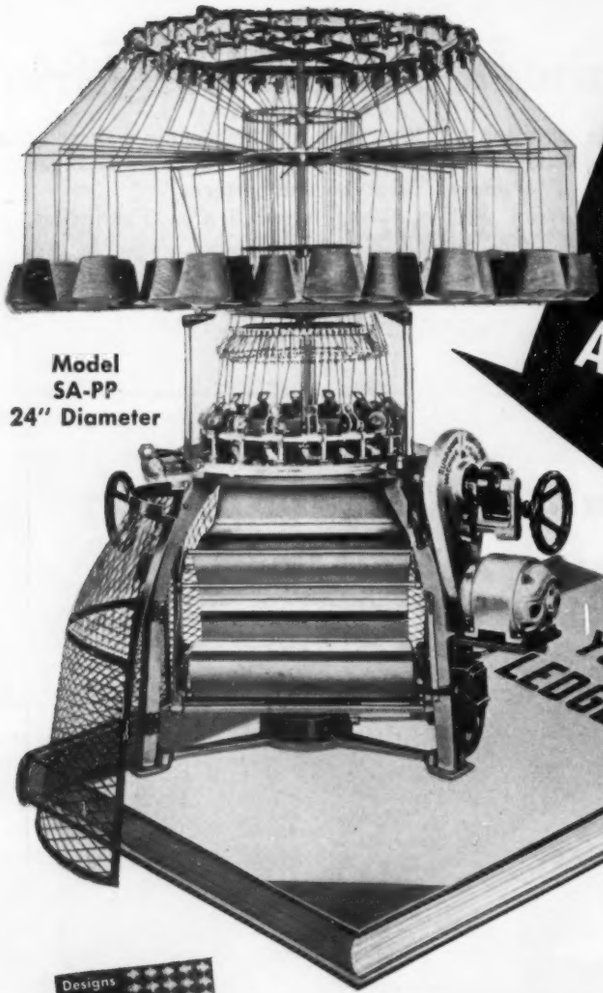
Some full-fashioned hosiery mills have flat inspectors who check stockings as they come from the knitting machines. In one mill the work is checked for any defects, and if picks, pulls, holes, or menders are found they are charged to the knitter at the rate of two stockings for each defective one. This helps keep down menders, picks, pulls, and provides a check for defective work before it gets too far from the machine and the knitter.

The knitters therefore can correct their machine before many defective stockings are made. This system of inspection has induced the knitters to be more careful and to wear gloves when handling hosiery.

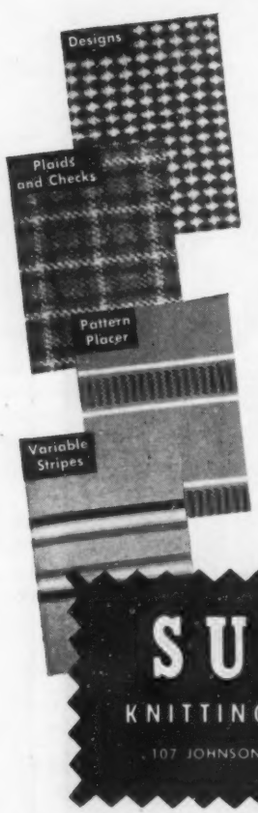
The inspectors shown here work on tables which are located in an area adjacent to the knitting machines. The tables are covered with felt, and the inspectors take the work from trays as shown and place it in other trays according to classification after inspection.

Note the trays conveniently located on the table in front of the operatives. Supplementary lighting was added in this area to aid the inspectors in their work.

One mill claims 20% less seconds since they started using flat inspectors in the knitting.



HERE'S WHERE THE FEATURES IN SUPREME'S AUTOMATIC STRIPERS Pay Off

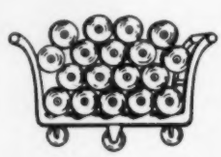


Profits show up immediately when you put the exclusive features of Supreme's SA-PP to work for you.

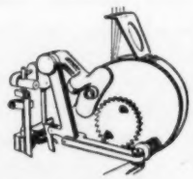
Here's why. Stationary yarn stand and new, unique striping system make it the World's Fastest Striper . . . 30% more poundage. Synchronized Cutters* eliminate all waste. It's simple and versatile. With Automatic Pattern Placers* you can knit plaids, checks, designs, variable stripes or Pattern Placer cloth on one machine.

Keep ahead of your competition. Investigate the Model SA-PP today. Write for free cloth samples and the booklet, "Variable Stripes and Plaids Pay."

EXCLUSIVE FEATURES!



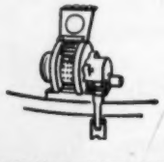
30% FASTER
The cylinder and take-up revolve at 24 RPM.



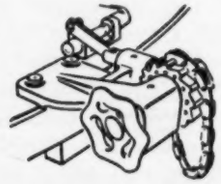
"NO-WASTE" CUTTERS*
Synchronized cutters clip off and hold yarns going out of action, eliminating all waste. No heavy seam. No need to reverse cloth for finishing.

AUTOMATIC PATTERN PLACER*
Lets you place patterns wherever you want in plain or striped jersey. Uses 3-Level wheels.

STATIONARY YARN STAND
Assures trouble-free, long-life operation at continuous, super-fast knitting speeds.



INDIVIDUALLY CONTROLLED, FOUR-COLOR STRIPING BOXES*
Make stripe selecting simple and flexible. Infinite stripe and design variations. Can be manipulated to produce six-color striped fabrics.



SIMPLE STRIPING CONTROL MECHANISM*
A simple, short chain with only two types of links gives varied stripe selection desired.

*Patents Applied for

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Also builders of Supreme Model MJ Jersey Machines, Model IC Coating Machines, Model ML Pile Fabric Machines, and Model ROF "Floatless Jacquard-Type" Pattern Wheel Machines. Mills throughout the world knit with Supremes. SK-126

Commercial Standard For Hosiery Lengths and Sizes Now In Print

According to an announcement by the Commodity Standards Division of the National Bureau of Standards, printed copies of Commercial Standard CS46-49, Fourth Edition, covering hosiery lengths and sizes are now available.

The fourth edition has been expanded to include standard measurements for men's athletic socks, men's crew socks, and men's and boys' slack socks. It also provides standard methods of measuring, and lists standard sizes and lengths, with length tolerances for men's, women's and children's hosiery, thus providing a uniform basis for guaranteeing full length and full size hosiery.

The standard became effective for new production from June 22, 1949.

Printed copies of this commercial standard may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 10c each (stamps not accepted).

Stores Would Shift Risks to Mills

An outstanding development thus far this fall in the dealings between large wholesale and retail distributors and the manufacturers who supply them, has been for the merchants to attempt to induce the mill's to reinstate idle equipment and call back operatives to make up a backlog of finished goods inventories—presumably on the mere word of the merchandisers that they believe future retail demand will prove sufficient to take off all the goods thus made. It is understood that quite a number of knitwear and other manufacturers have taken such offers under consideration, but the majority have insisted on getting firm orders prior to making up the scheduled supplies.

It is pointed out in some quarters that after all manufacturers are not able to place orders (on memorandum) for yarns and other supplies, because in this respect they have to deal with suppliers whose main reliance is in the soundness of written contracts, stating prices and terms; and not only is it the custom of these interests to stand absolutely on the validity of contracts, but most of them belong to trade groups whose attorneys are prepared at all times to appeal to the courts for aid in enforcing such contracts.

That is, as viewed in this industry, there is no need of large retailers seeking to shift part of their legitimate business risks onto their sources, but some merchandisers always are anxious to get a better bargain than competitors; and where there is a general firming-up of manufacturers' prices (as there has been this fall) merchandisers resort to other means to induce the mills to carry a larger portion of the inventories.

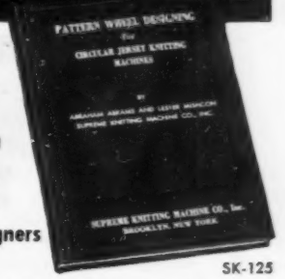
Small producers, it is explained, who are anxious to build up their connections with nation-wide retail outlets often in the past have yielded to these tactics and eventually lost their independence, but this time they are better informed as to their rights and so far have been more cautious.

High Twist, 15 Denier Nylon Yarns Sought

A spokesman for a large throwster of hosiery yarn is authority for the statement that in recent months increased interest is being noted in high twist, 15 denier yarn. The point is made that this has happened without any fanfare in the trade regarding the supposed advantages of using this type of yarn.

On the other hand, according to this authority, interest in 20 denier multifilament yarn for hosiery is less active than it formerly was, and interest in 20 denier monofilament yarn has declined until this throwster regards it as almost negligible. It is added that since the mills began working on fall goods, the volume of 30 denier yarn coming into the throwing plants has enlarged substantially.

KNITTERS
Supreme's New Book Tells You How To Design for PATTERN WHEELS



165 Pages Of Profit-Producing Information For Circular Jersey Knit Goods Designers

SK-125

This *FIRST, COMPLETE*, manual on pattern wheel designing *tells* and *shows* you:

★ How To Create 2 and 3-Position Patterns
★ How To Calculate Pattern Area Widths
★ How To Lay Out Pattern Areas On Paper
★ How To Read 2 and 3-Position Patterns
★ How To Fill and Set Wheels
★ How To Analyze and Copy Cloth Samples
★ How To Explore The Pattern-Producing Possibilities Of Pattern Wheel Machines

PATTERN WHEEL DESIGNING FOR CIRCULAR JERSEY KNITTING MACHINES

By ABRAHAM ABRAMS and LESTER MISHCON

Supreme Knitting Machine Co., Inc.

Price $3.50

A Design Handbook (5" x 7") That *Shows* As It *Tells*—One hundred and seventeen (117) photographs, drawings and diagrams let you examine every important detail described in the text. Straightforward, step-by-step explanations are illustrated by working out actual design problems as examples.

Written by authorities on the subject, the book presents both basic and advanced information on knitting. It includes an illustrated glossary of common knitting terms and gives a complete, diagrammatic description of the mechanics of knitting. The knit, tuck, welt and cast-off needle positions are clearly shown and their functions explained. The knitter is shown how the various plain and fancy fabrics are produced. Magnified photo close-ups show stitch formation in minute detail. A complete course in knitting all in one book.

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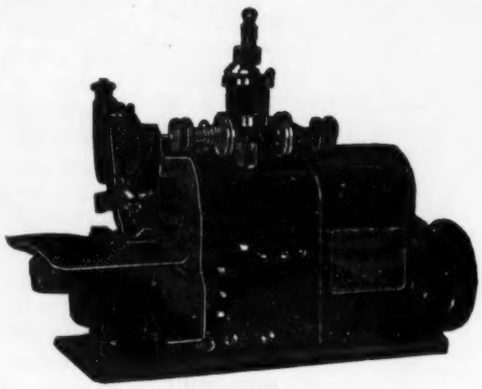

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AN EYE ON THE

KNITTING MILLS

Jordan Mills, Inc., has discontinued the knitting division at the mill in Columbus, Ga., heretofore specializing in seamless hosiery for men and women.

Globe Knitting Works has plans to concentrate on underwear and union suit production at the mill in Grand Rapids, Mich., and production at the branch mill in Zeeland, Mich., will be given over to hosiery manufacture exclusively. A number of the knitting machines will be removed from the Grand Rapids mill to Zeeland.

Hoffman Knitting Mills have leased a one-story building in Flushing, Long Island, N. Y., to be used for the manufacture of outerwear.

Lillian Knitting Mills, Inc., Albermarle, N. C., has arranged for the production of a line of full-fashioned nylon hosiery. A number of new 60-gauge knitting machines will be installed.

Mojud Hosiery Co. has plans for expansion and improvements, including proposed equipment purchases, in the mill in Greensboro, N. C., at a cost of $1,500,000.

Heller Knitting Mills, Inc., has been incorporated with a capital of $50,000, to operate a mill in the vicinity of Providence, R. I. H. Donnelly, Apponaug, R. I., is the incorporator and representative.

C. W. Anderson Hosiery Co., full-fashioned hosiery, has completed its finishing mill at Clinton, S. C.

Sing Sing Prison's textile vocation department is anticipating the purchase of new equipment pending authorization by the New York State Board of Corrections. The cost is reported to be $60,000, and most of this sum is earmarked for knitting machinery.

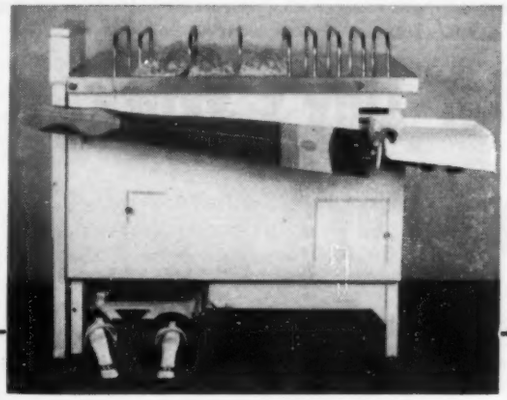
High Rock Mills, Inc., Philmont, N. Y., the former High Rock Knitting Co., has disposed of all knitting machines and is now specializing in wool and worsted cloth production.

Griffin Hosiery Mill, Burlington, N. C., has purchased **Sydney Hosiery Mills,** Graham, N. C. a subsidiary of Burlington Mills, Inc. Griffin will use the mill as a finishing plant after extensive remodeling has been completed.

Independence Hosiery Mill, Inc., is completing negotiations for the operation of a new hosiery mill in Independence, Va., to be on a site purchased from Burlington Mills.

Dave Baer Hosiery Mills, Inc., Rock Hill, S. C., has been granted a charter with a capital of $10,000, to manufacture all types of hosiery. David R. Baer is president.

Karen Knitting Mills, Inc., has been organized with a capital of 200 shares of stock, no par value, to manufacture outerwear in Brooklyn, N. Y. Solon Hanft, Brooklyn, is the principal incorporator and representative.



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More Discussion on Moisture Regain

Question Briefed: *We are interested in obtaining some information on charts for conversion of fabric breaking strengths for different percentages of regain. We should also like to have some information or charts showing the relation of breaking strength to relative humidity.* (CONTRIBUTOR No. 8134, *April*, 1949.)

EDITOR TEXTILE INDUSTRIES:

I am very much interested in the subject of moisture regain and its effect on the breaking strength of fabrics and yarns. The question, which was raised by CONTRIBUTOR No. 8134 in the "How Other Men Manage" department of the April (1949) issue of TEXTILE INDUSTRIES, is a good one for discussion. I think the reply by CONTRIBUTOR No. 8008, in the same issue, is a very sensible one and we are hoping to see evidence of further interest in this question.

At the spring (1949) meeting of A. S. T. M. Committee D-13, a number of task committees were appointed by the chairman of the sub-committee on Atmospheric Conditions, of which I am a member, to study various phases of this subject. This is a step in the right direction and some valuable information should result from the work of these task groups.

One trouble with the average laboratory is that, because of routine work which is required, they are unable to run a sufficiently large number of tests on any one item to get all of the facts. This is particularly true in view of the many theories which have been advanced regarding the effect of moisture regain on the breaking strength of fabrics. Another difficulty in the average mill laboratory is the lack of facilities to condition the material to more than one regain. Usually the laboratory is conditioned to obtain standard regain and it is not practical to change it for experimental work.

Checking moisture regain can be done more satisfactorily in research laboratories; however, there are certain precautions which can be taken to assure accurate and dependable results from the mill laboratory. Among these precautions are:

1. See that the conditioning equipment is kept in good running order, and if possible let it run the year around unless it is necessary to stop it for repairs or maintenance.

2. Install accurate recording instruments. At least one instrument is necessary for a small laboratory and more than one for large laboratories. The recorders should be checked at frequent intervals with a sling psychrometer.

3. Make periodical moisture determinations by pre-drying various samples of raw fiber, yarns, and fabrics. Then condition them until they reach moisture equilibrium. (We pre-dry such samples by placing them in a dessicator. Our dessicator is a small glass jar, containing calcium chloride, which will reduce the moisture in the samples two or three per cent within four to six hours.) By this method the actual regain of the air in the laboratory can be readily determined.

On page 5 of the October 1948 issue of the A.S.T.M. Standards on Textile Materials, Moisture Equilibrium is defined as follows: "The condition reached by a sample when it no longer takes up moisture from, or gives up moisture to the surrounding air." (The following note is appended to the definition.) "Superficial equilibrium with the film of air in contact with the textile material is reached very rapidly. Stable equilibrium can be reached in a reasonable time only if the air to which the sample is

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This contest ends November 15, 1949.

ONE HUNDRED DOLLARS will be awarded for the most helpful short cut, kink, time-saving device, cost-cutting suggestion, or quality improvement idea submitted by November 15.

The contest is open to any reader of this magazine. Contributions eligible for the prize must not have appeared elsewhere.

All material will be paid for at regular space rates upon acceptance irrespective of the contest winner. Advise when submitting entry if participant's name may be used. Only one award will be made in each contest.

Participants are not restricted as to number of items submitted to compete in the contest. Each entry should be described in sufficient detail to make it easily understood, and where possible, glossy photographs or pencil sketches should be included. Finished drawings are not necessary.

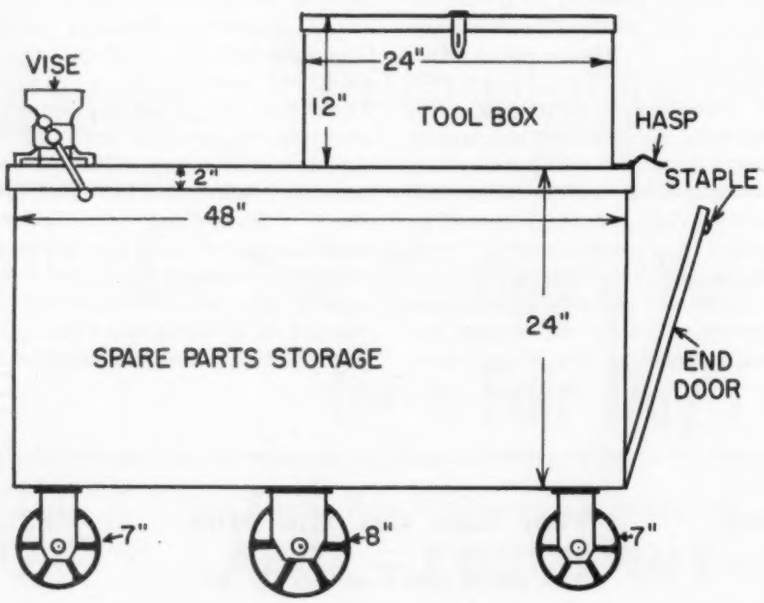
All entries for this contest must be postmarked not later than midnight November 15, 1949. Address: Editor "Textile Industries," 806 Peachtree Street, N. E., Atlanta 5, Georgia.

exposed is in motion. Stable equilibrium with air in motion is considered to be realized when successive weighings do not show a progressive change in weight greater than the tolerance established for the various textile materials."

Although we do not find it practical to run moisture tests on all samples of fabric which we break, we do make moisture determinations on all samples for organization papers and special analysis. We also make periodical tests on various selected samples of fabric after exposure in the cloth room for several hours and on the same fabrics after exposure in the laboratory overnight.

We hope that other contributors will continue this discussion by sending in their experiences on the subject. CONTRIBUTOR No. 8196

Tool Box and Work Bench Combined in One Package



EDITOR TEXTILE INDUSTRIES:

A combination tool box and work bench which is portable may save time for many fixers. The portable combination will enable the fixer to get more work done in a shorter time by eliminating numerous trips to a stationary tool box and work bench. The stationary type work bench is standard equipment in many mills.

The work bench is mounted on wheels which can be obtained from an old roving box that has been removed from service. The wheels may be attached in the same manner as they were on the roving box. For instance, one seven-inch wheel on each end and one eight-inch wheel on each side of the box.

The work bench may be constructed of a wooden box measuring 48 inches long, 18 inches wide, and 24 inches high. The top of the box can be covered with 2 x 6-inch planks which are strong enough for heavy work. A vise can be mounted on one end of the bench and a box of tools placed on the other end. The tool box is for wrenches, hammers, screwdrivers, calipers, etc.

The interior of the large box beneath the work bench can be used to store large tools, such as pinch bars, gear pullers, and some of the most frequently used parts necessary for the fixer's particular type of machinery.

When a fixer has to make a repair he can roll the tool box and work bench to a spot near the machine to be repaired. The added convenience of tools and a place to work will help the fixer get the job done quickly and reduce to a minimum the amount of lost time due to unnecessary walking.

The combination tool box and work bench can be made to any desired dimensions to suit the requirements in each individual mill. The accompanying sketch shows some of the details of the arrangement we are using in our plant.

CONTRIBUTOR No. 8210

Unit Replacement Cuts Down Time on Repair Jobs

COMMON practice in some weave rooms is to flag the fixer when a loom breaks down and have him repair the broken part at the loom. When the fixer attempts to repair the damaged parts, frequently he has to remove a number of other loom parts to gain access to the broken parts. This method of making repairs is costly in that the loom is kept out of production until the fixer has disassembled a number of parts, replaced the broken part, and then reassembled the parts removed. The fixer is confined while making this repair and is not free to make minor adjustments on other looms to maintain production.

A time saving system is in use, whereby a supply of spare assemblies is kept available for those loom parts which require replacement more frequently. For example, in case of a broken lay, the fixer removes the reed cap, reed, lay, laysword, and all other parts of the assembly as a unit.

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He then replaces the entire assembly with a spare which has been fixed and prepared beforehand in his spare time.

By following the foregoing practice, in one mill approximately eight hours of time was saved in terms of production and confinement of the loom fixer. Formerly, 12 hours were spent in repairing and replacing parts on a loom with a broken lay. The fixer can repair the broken part in the mill shop when he has some free time that would be wasted otherwise. The assembly can be removed and replaced in approximately an hour and a half.

Comments on Yarn Numbering System

EDITOR TEXTILE INDUSTRIES:

Enclosed please find a contribution to the discussion on yarn numbering, introduced by CONTRIBUTOR No. 8185.

Personally, I do not believe that there is any hope of the introduction of a unique system of numbering textiles until the man in the mill has been consulted and has had his say. After all the tumult and the shouting has died down and some form of universal system has been decided upon, it will be the spinners and the weavers who will have to do the donkey-work and assume the responsibility for the errors that must surely occur if and when a changeover is to be made. Therefore, I believe they should be encouraged to contribute to any discussions that may lead to decisions that will impose upon them obligations and responsibilities.

CONTRIBUTOR No. 8225

Editor's Note: In the TEX system (adopted by Spain, and discussed by Contributor No. 8185 in September issue) 1000 meters of a one TEX yarn will weigh one gram; 1000 meters of a two TEX yarn will weigh two grams, etc. Contributor No. 8225 adds his comments and discussion as follows.

EDITOR TEXTILE INDUSTRIES:

In your September (1949) issue, CONTRIBUTOR No. 8185 raises one of the most urgent questions confronting the world's textile industry; namely, universal yarn numbering.

This controversial question has been discussed at numerous international conferences, starting with the Vienna conference in 1873. This question has been a bone of contention for the past 76 years. In Spain, General Franco's regime has imposed the Tex system on the Spanish textile industry by governmental decree.

The main stumbling block to the acceptance of a unique yarn numbering system stems from the fact that we have not a unique system of weights and measures. Seventy-

HELPFUL IDENTIFICATION ON TEXTILE MACHINE PARTS

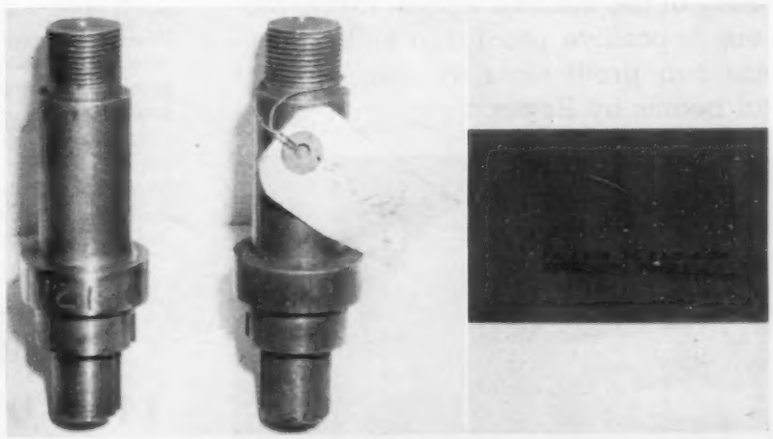
This item was submitted in a kink contest.

Identification of studs, steel shafting, and other metal machine parts used in the textile industry can be improved for the benefit of mills when ordering replacement parts. When supply items are ordered by correspondence, some form of marking on the parts would serve as a ready reference number or specification mark to set forth in describing the desired parts.

A stencil etching process may fill the need for marking parts to aid in (1) shop operation, and (2) ordering mill supplies. The illustration (left) shows two identical studs; one with permanently legible marking; the other with a temporary tag which may become detached, thereby causing unnecessary delays in reordering.

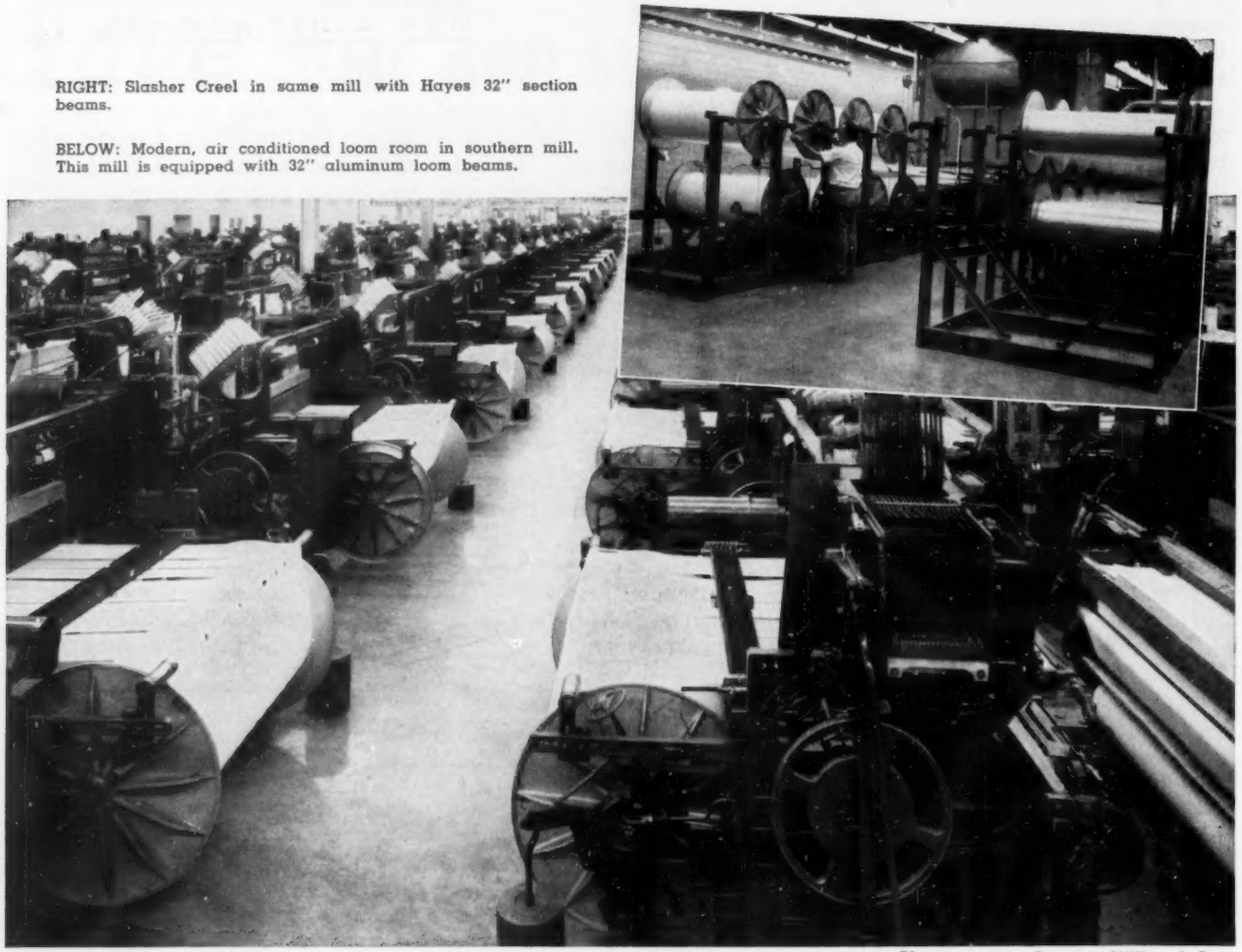
Parts assembled on the various machines oftentimes have no identifying marks, causing a loss of time in making repairs and reordering supply parts. The second illustration (right) shows a flat steel blade used in textile applications. The identifying marks serve a purpose for both the manufacturer and the textile mill operators.

CONTRIBUTOR No. 8204



RIGHT: Slasher Creel in same mill with Hayes 32" section beams.

BELOW: Modern, air conditioned loom room in southern mill. This mill is equipped with 32" aluminum loom beams.



Photos courtesy Deering, Millken & Co.

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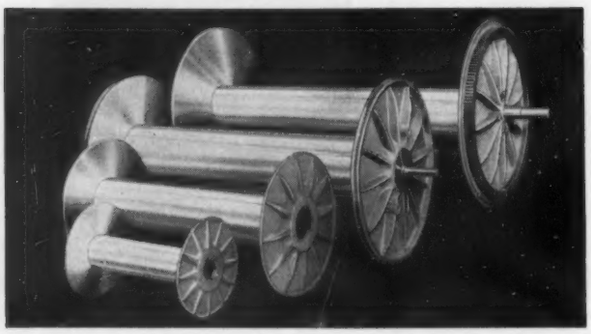

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six years of futile discussion have demonstrated the fact that common unit countries are unwilling to introduce metric weights and measures into the framework of a system based on yards and pounds. Meters and grams do not fit, nor can they be made to fit a common unit system.

A unique system of numbering textiles is advocated as a means of putting an end to the confusion of counts in textiles. Many technologists advocate the adoption of a numbering system based on meters and grams. The following figures demonstrate the confusion existing currently in the camp of the metric unit advocates.

Yards Per Lb. of 1 Denier Yarn
(fractions of 1 yd. ignored)

4,437,333	yds	per	1	lb.
4,445,665	"	"	"	"
4,450,500	"	"	"	"
4,463,424	"	"	"	"
4,464,471	"	"	"	"
4,464,512	"	"	"	"
4,464,513	"	"	"	"
4,464,528	"	"	"	"
4,464,531	"	"	"	"

Between the two extremes there is a difference of 27,198 yards, or slightly more than 32 hanks of 840 yards each.

The best means of securing even a minimum of agreement on yarn numbering would be obtained if two systems (twin systems) were proposed; one based on meters and grams for metric unit countries and the other based on yards and pounds for common unit countries. The units should be decided by the countries concerned. Such a solution would reduce confusion in both groups of countries. At the same time, it would keep the changeover costs down to a minimum, since all the existing reels, scales, measuring devices, etc. would not need to be scrapped.

CONTRIBUTOR No. 8185 mentions three systems, two of which are common unit systems; namely, Typp and Poumar. I propose to add a third; namely, the INTEGRAL system. This system was proposed in 1945.

The Integral system is designed to number yarn, cloth, and rope. Copies may be had on request to S. Blackshaw, 7343 St-Hubert St., Montreal 10, P.Q., Canada.

To date, the question of universal yarn numbering has been left in the hands of technologists who went to international conferences to speak their own minds. The man in the mill has not yet been consulted. The first attempt to bring the question before the mill men was made at the Canadian Textile Seminar at Kingston, Ontario, Canada, in September, 1948.

Now that the question has come to the notice of your readers, it should not be allowed to bog down and lie dormant from one international conference to another. Practical men should now take a hand, or we may have to suffer another 76 years of learned discourses, during which time the 33 numbering systems now in use may have increased and made the present confusion of counts intolerable.

CONTRIBUTOR No. 8225

Whistle Warns of Fire

This item was submitted in a "kink" contest.

EDITOR TEXTILE INDUSTRIES:

A majority of fires in cotton mills are in the opening room and picker room. Although many mills have installed magnets in the opening room to catch tramp iron and other metal objects, fires continue to occur from various other causes.

We have perfected a plan in our card room whereby the loss caused by occasional fires is held to an absolute minimum. Two whistles having different tones were in-

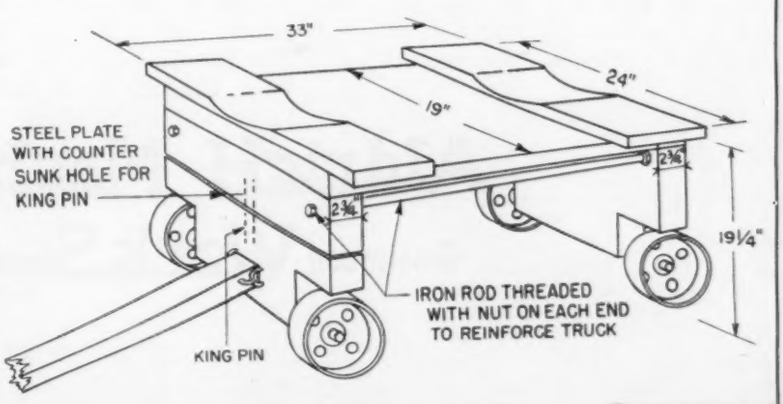
Handy Truck for B-C Warper Beams

This item was submitted in a kink contest.

A small truck helps simplify the handling of 30-inch beams of yarn when hauling them from our B-C warpers to the slasher room. We are using a truck which was made in the mill shop at low cost. Details of construction are shown in the sketch.

We place the empty truck alongside the warper when the full beam is ready to be removed. The top of the truck is level with the beam which makes doffing simple and easy.

CONTRIBUTOR No. 8208



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Greenwood **WorkS** South Carolina

stalled near the center of the card room. These whistles operate on compressed air from the existing system, and we have a control valve in the picker room to shut off one whistle, and another valve in the opener room to shut off the other whistle.

The first sign of smoke or fire in either the picker room or opener room is cause for the machine operator to open his control valve, thereby sounding the whistle in the card room. We have trained our card grinders and frame fixers to stop whatever they are doing and run to the fire as soon as they hear the whistle. They are also trained to fight the fires and know exactly what to do.

A few trained men can put out a fire in a short time when they are unhindered by not having everyone in the department milling around haphazardly and getting in each other's way. Our operatives have been instructed not to leave their jobs, when minor fires occur, unless we have asked them to do so. This plan has enabled us to extinguish fires in a short time and with a decided saving in stock, labor, and general confusion.

The purpose of having whistles of different tones is to differentiate between the location of the fire. This saves the card grinders and frame fixers from having to run to one room only to find that the fire is in another room.

An electric bell would serve just as well as the whistle for a signalling device; however the bell would have to be a loud one.

CONTRIBUTOR No. 8202

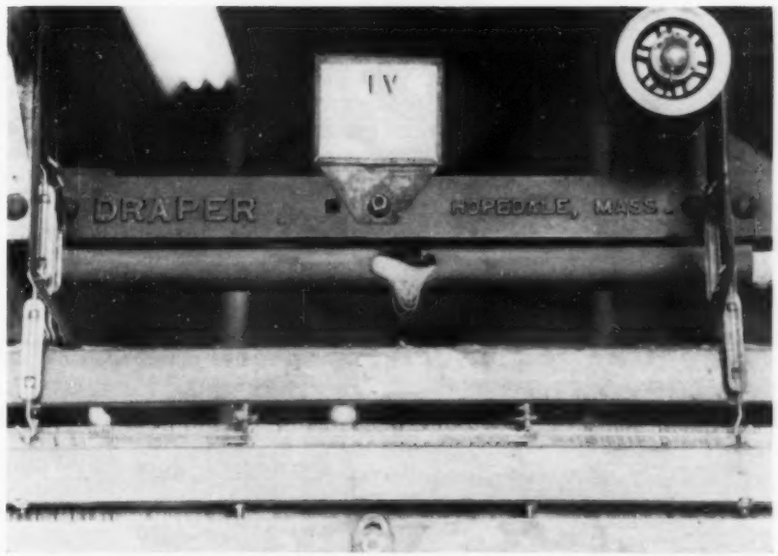
Helpful Loom Accessories

EDITOR TEXTILE INDUSTRIES:

Tie Thread Tube

Tie threads looped across the arch connection of a loom are unsightly and become soiled, often making dirty streaks in the cloth when used. A tube (as illustrated) keeps the threads clean, convenient, and the arrangement is neat.

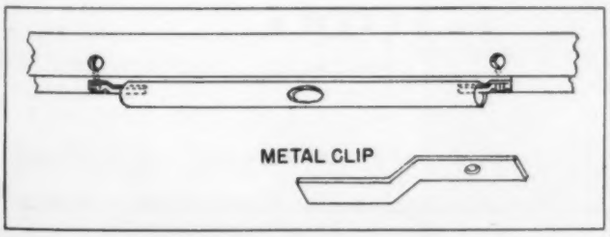
The tube is of heavy paper construction, 28 inches long and 1¾ inches in diameter and is held in place on the under side of the arch connection by metal clips extending into the open ends. The clips are attached to the arch connection by cap screws threaded into the holes. The existing holes were drilled to hold the set screws used with a roll and shaft top. If it is desired to use these tubes on looms equipped with such harness lifting mechanism, a longer set screw can be used to hold both the clip and the harness roll shaft bearing arm.

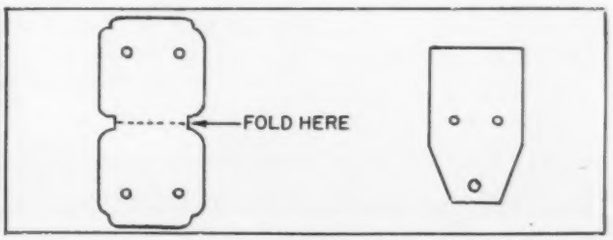


Construction Card Holder. A cloth construction card holder can be cut from sheet iron or aluminum. The piece is folded over and riveted. The flanges are then crimped and the holder is bolted in an upright position in the center of the arch connection of the loom.

The cards which fit into this holder are 4″ x 5″ cardboard. The style letters are stenciled on and the construction data is written in ink or typed.

CONTRIBUTOR No. 8191





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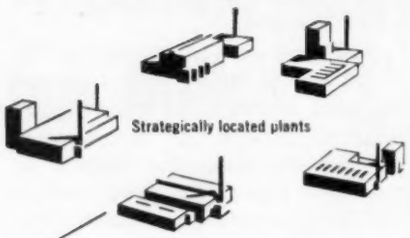

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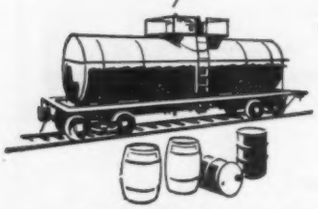

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With today's costs of manufacturing so high, it's the wise chemical buyer who considers his purchases from every angle. Price and specification alone are no longer basis enough for a buying decision.

There is a good deal more a buyer can expect—speed of delivery, technical service, big-plant capacity to assure continued supply, knowledge of the industry and experience with its problems. On all these counts, more and more manufacturers agree, "it pays to specify Solvay."

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Fire Extinguishers in Textile Mills

EDITOR TEXTILE INDUSTRIES:

Many experienced cotton mill operatives, foremen, and overseers agree that water is not the most desirable agent to use in extinguishing fires. Some of the reasons for using other means in extinguishing fires are listed as follows:

1. Water causes the metal parts of the machinery to rust quickly. This makes it necessary to clean the machine completely and scrub the steel rolls.

2. After the fire has been extinguished, it is difficult to clean up the water from the floor, and in many instances it will leak through cracks in the floor, thereby ruining stock on the floor below.

3. Water is usually dashed on the fire from a bucket, thereby scattering burning lint or cotton, causing the fire to spread to other machines.

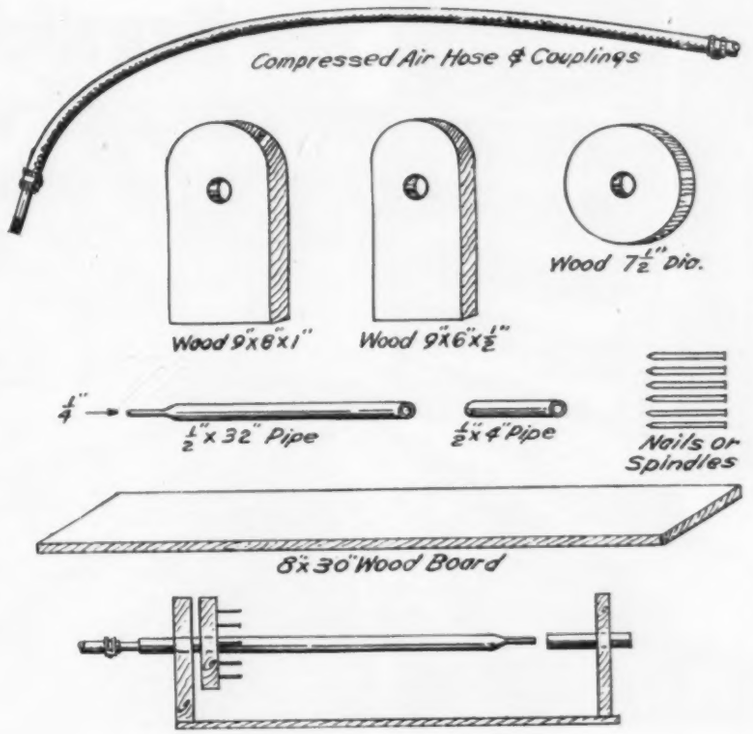
Mill owners, managers, and superintendents are seldom at the scene of a fire before it is extinguished; therefore the management is not fully aware of the shortcomings of their fire fighting equipment.

One remedy for preventing the use of water on fires is to provide an adequate number of pump-type liquid filled extinguishers, and place them at strategic positions throughout the plant.

Some insurance companies require that the mills have water available for fire fighting. A light weight fire hose can be placed in each department, to be used only if the fire gets out of control. We have tried this arrangement in our opening department, where most of the fires occur, and have had to use the hose only once in four years.

A fire extinguisher presents a much better appearance than a lint covered bucket on a post, and many operatives would like to be rid of the buckets after having bumped their heads on them and having water sloshed down the backs of their necks.

CONTRIBUTOR No. 8211



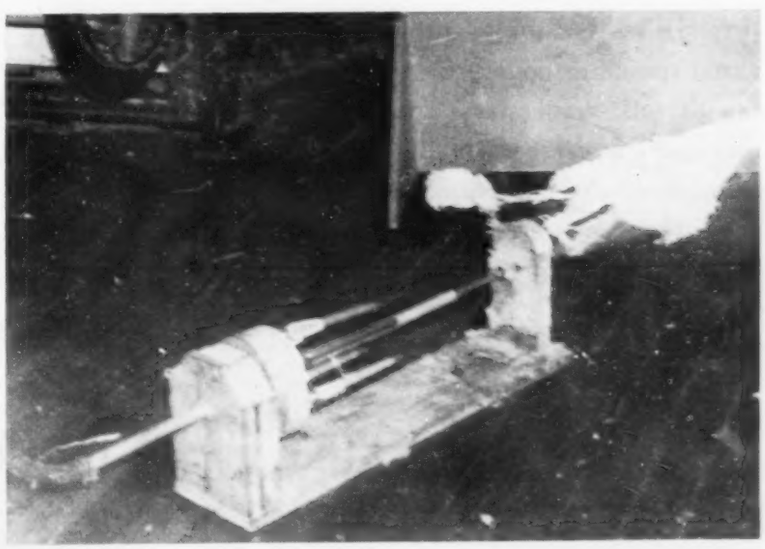
PNEUMATIC BOBBIN STRIPPER

EDITOR TEXTILE INDUSTRIES:

There are always a number of filling bobbins that get soiled or damaged in the spinning and weaving departments. It is often necessary to cut the yarn off these quills with a knife. This practice is unsafe.

A stripper similar to the one shown in the accompanying illustrations can be made easily and inexpensively. It will clean approximately 400 bobbins of 10s filling per hour. The bobbins are placed on the revolving drum, and the yarn is threaded through the short length of pipe at the opposite end. Air passing from the long pipe into the short one pulls the yarn from the quills.

CONTRIBUTOR No. 8096



More economical maintenance... More efficient heating!

with the self-cleaning

TEXTILE THERMOLIER

Incorporating all the features that have made the standard THERMOLIER a leader, the new TEXTILE THERMOLIER banishes the problem of clogging and loss of heating capacity, and cuts cleaning to almost nothing.

TEXTILE THERMOLIER proved its superiority in this actual spinning room test. A conventional unit heater clogged solid in four days . . . its heating capacity was lost as clogging increased. Finally it had to be shut down for a prolonged cleaning period. After three weeks of operation, TEXTILE THERMOLIER showed negligible accumulation . . . it was quickly cleaned with an air hose.

Cutaway view of heating element showing unobstructed air flow passages (drawn to exact scale)

- Free flow of air self-cleans the heating surfaces. Lint, fly and dirt sweep clean from horizontal trailing edge.
- Maximum capacity provided at all times and annoying and destructive water hammer eliminated because built-in pitch of tubes and internal cooling leg assure continuous drainage of condensate.
- Safety and durability assured with leak-proof tube-to-header construction.
- Plain thermostatic trap, the simplest and least expensive kind of trap, made practical because of Thermolier's exclusive internal cooling leg. Write for the full story.

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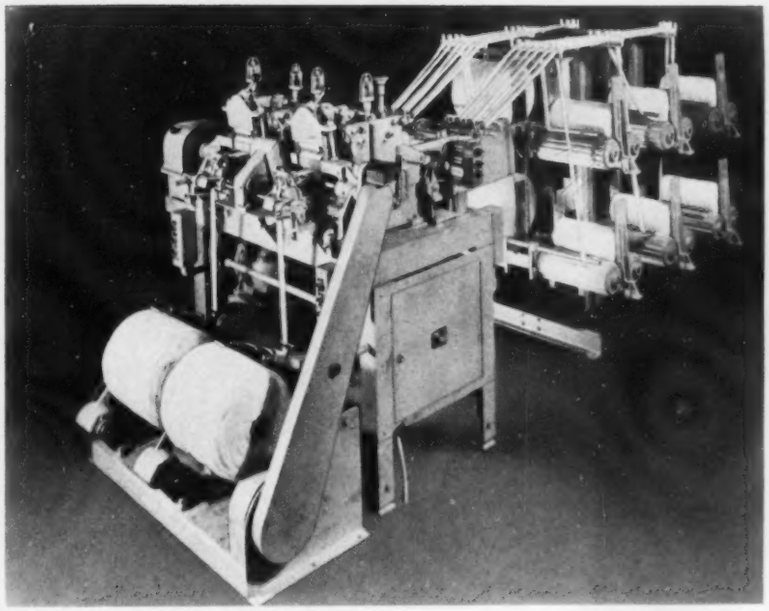
NEW EQUIPMENT
AND MATERIALS



Warner & Swasey Pin Drafter equipped with dual balling unit.

New Balling Head Extends Usefulness of Pin Drafter

A new balling head mechanism for the Warner & Swasey Pin Drafter, is now in production. The dual balling unit extends the versatility of the pin drafter and in particular will enable a single machine to replace two gilling operations following combing, in combing operations where commercial ball top is the final product.

At the same time, the high efficiency of the pin drafter contributes to a higher quality top, with a lighter sliver and better integration. Further, the use of such ball top in yarn mills operating on the Bradford system will enable two pin drafting operations to accomplish the work now done by three pin drafters, or five conventional gilling and drafting machines. The balling head will also make the pin drafter more readily applicable to French system operations, it is claimed.

The balling unit winds tight, hard balls 14" by 15½" diameter, without draft. The balls weigh approximately 21 pounds; in comparison with storage in 15" by 36" cans, about twice the weight of sliver is thus accommodated in equivalent space.

Winding a top of 135 grains per yard, over a thousand yards is contained in an extremely solid ball which need not be compressed for shipment. At the same time, the balls wound by the new delivery have excellent stripping qualities, and sliver as light as 30 grains per yard has been successfully handled.

The balling head is a dual unit, and can be used on all existing dual pin drafters.

Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio.

For additional data, request item K-117, using business reply card on page 206.

Trackless Cloth Spreader

An expandable-type cloth laying machine for the apparel trades is now in production. This machine, taking up but little space on the table, is said to be ideal for cutting departments where space is at a premium.

The machine is a trackless cloth spreader, requiring no tracking along the side of the cutting table. A special device keeps the machine from rolling off the table.

A lightweight machine, it is made of aluminum to provide strength without weight, and can easily be shifted from one part of the table to another. It opens up to a maximum width of 66 inches from 36 inches minimum, and handles all widths of material up to 60 inches.

The trackless machine features a simplified shifter arrangement to assure a more accurate cutting edge as the goods are spread on the table. The twist of a knob shifts the goods from side to side as necessary.

Rolled goods as well as flat folded materials are handled by the machine, which is designed primarily for the spreading of goods face one way on cutting table. However, rod attachments can be obtained for face to face spreading.

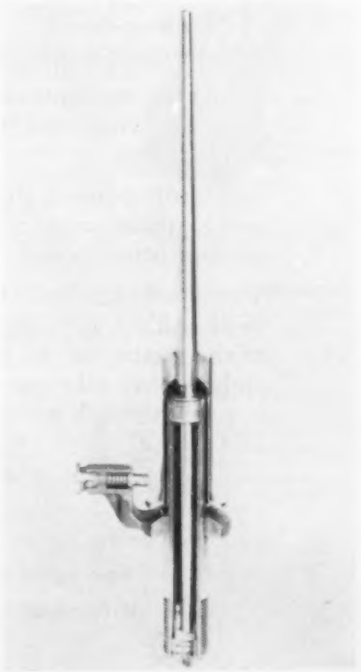
Cutting Room Appliances Corp., 45 West 25th St., New York 10, N. Y.

For additional data, request item K-122, using business reply card on page 206.

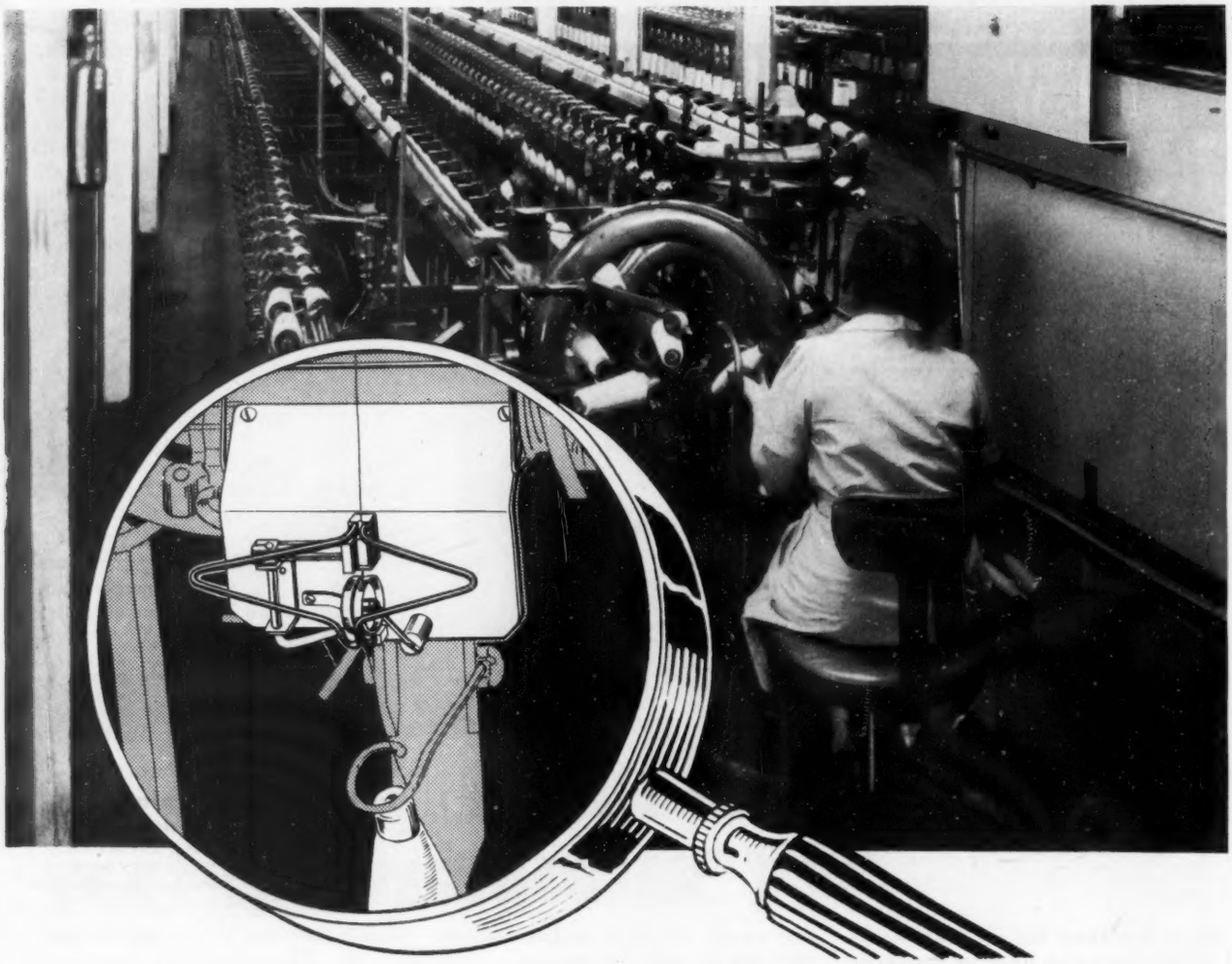
Roller Bearing Spindle Features Replaceable Nylon Footstep Bearing

A new roller bearing spindle for the throwing industry features a self-aligning molded nylon footstep bear-

Spindle by Easton & Burnham.



The NEW Sliding-Block SLUB CATCHER



THE Abbott Machine Company has developed a new type of slub catcher called the "Sliding-Block." This new type slub catcher has been especially designed for Abbott circulating automatic Cone and Tube Winders.

When the machine is in operation, the sliding-block slub catcher on each Winding Unit is opened and blown out automatically after each bobbin is wound, or oftener if necessary.

The sliding-block slub catcher is accurate to 1/1000th of an inch and can be quickly and easily replaced with any desired size. Of great importance is the fact that the slub catcher is foolproof.

The spacing is built into the block in such a manner that it cannot be altered while in operation, nor can it be kept open purposely to increase production at the expense of the quality of the yarn. Mills that have been using this new Abbott sliding-block slub catcher all report that it is an outstanding contribution to the winding field for improving yarn quality.

Write to us now for further information

ABBOTT MACHINE COMPANY
FACTORY AND MAIN OFFICE
WILTON, NEW HAMPSHIRE
SOUTHERN OFFICE GREENVILLE, SOUTH CAROLINA

ing which can be replaced quickly without removing the spindle from the frame.

There is no bolster case inside the spindle base between the upper and lower bearings. Because of this feature, an unusually large oil reservoir is provided, resulting in a much longer period of time between oilings.

This high speed spindle is available for all makes of throwing equipment and is also furnished to twist directly from pirns.

This manufacturer is using the same basic bearing design of this roller bearing spindle in cotton and worsted plants, supplying both complete new spindles and conversions of present spindles. In conversions, use is made of the old whorls and doffer latch assemblies. New bases, roller and nylon bearings, and spindle blades are supplied at approximately half the cost of a complete new spindle, according to the announcement.

Easton and Burnham Machine Co., 79 Chestnut St., Central Falls, R. I.

For additional data, request item K-107, using business reply card on page 206.

84th Year Blue Book Now Off the Press

The new enlarged eighty-fourth year Davison's "Textile Blue Book" is now available, according to a recent announcement by Davison Publishing Co., Ridgewood, N. J., publishers.

The large deluxe office edition (price, $8.25) reports all cotton, woolen, worsted and carpet mills, geographically and also separately by products. In addition, there is a textile buyers' guide (128 pages) listing manufacturers and dealers in chemicals, dyes, yarns, textile machinery and supplies.

A thin paper handy edition (price, $5.75) contains the same information except mill classification by products and buyers' guide.

New Book Proves Helpful in Fiber Identification

The second edition of *Identification of Textile Fibers*, by Bruno Luniak, was recently published by Verlag Leeman, Zurich, Switzerland. (Price, 30 Swiss francs or about $6.50.) It is printed in German and contains 143 pages, 288 photomicrographs, and 12 tables.

Designed for use by the technician in industry or commerce, this com-

HOW TO GIVE YOUR FLOORS A FUTURE

(Above) Dark oil-soaked floor maintained by scrubbing. (Right) Similar area, same dirt conditions, but TENNANT dry-cleaned.

An example of results you can get with the

TENNANT System OF FLOOR MAINTENANCE

To be SURE of bright, easy-to-clean floors in your mill—both now and for *years* to come—no other maintenance method is more effective than the TENNANT SYSTEM.

It not only reconditions dark, spongy, water-softened floors . . . it restores original brilliance . . . hardens, seals and *protects* against dirt and traffic . . . cuts cleaning costs.

KEEPS FLOORS BRIGHT by fast mechanized dry cleaning. Eliminates scrubbing.

MAKES FLOORS EASY TO CLEAN. Dirt cannot readily adhere to smooth-sealed floors. Wipes off easily.

CUTS MAINTENANCE COSTS by saving manhours. Floors clean up like magic and stay clean much longer than when scrubbed. Floors stay dry, hard, lustrous; reduces slip hazards.

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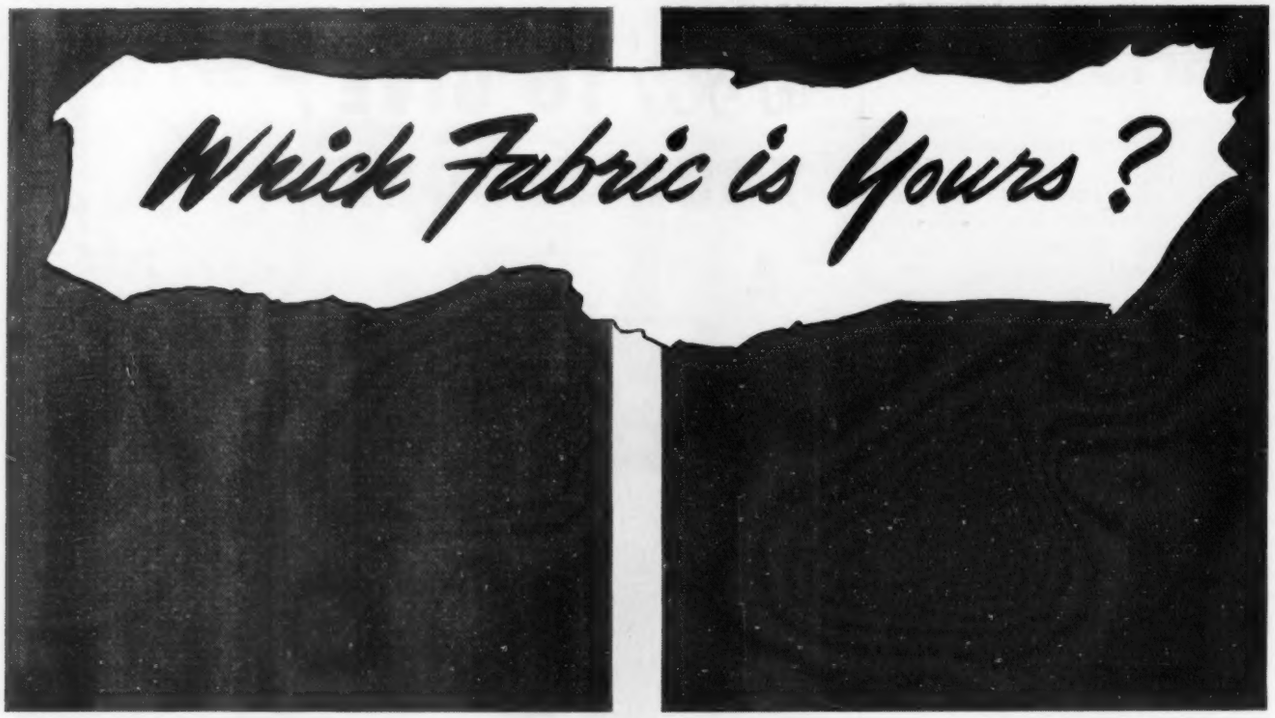
Write today! Get typical case histories, photos, and NEW bulletin "How to Get Better Results In Textile Floor Maintenance."

TENNANT FLOOR MAINTENANCE System

Established 1870

OFFICES IN PRINCIPAL CITIES



If yours is the streaky, defective specimen, the cause may be due to faulty yarns or weaving, improper sizing, poor dyestuffs, wrong dyeing procedure, or faulty finish.

It is important that you *know* the cause of defect and *who* is responsible.

Many years of practical experience and the study of Mill procedures have equipped our technical staff with the know-how to determine cause of defects and to prevent their re-occurence.

A TYPICAL DEFECT ANALYSIS INCLUDES:

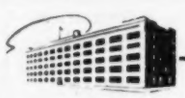
1. *A study of the yarns and their characteristics.*
2. *A study of the weave tensions employed, and sizings used, as well as tints and other greige goods variables.*
3. *Determination of dyeing characteristics of the greige goods.*
4. *Selection and proper application of dyes and finishes to eliminate the defect.*

When required, a mill or dye house investigation is made by an experienced United States Testing Company technical consultant, and corrective procedures are outlined.

A similar procedure is followed in the analysis of prints, both screen and machine.

We invite inquiries from mills, dyers and finishers, and converters, as well as manufacturers of dyestuffs and finishing compounds. A letter or telephone call will place at your disposal one of our technicians to discuss your problems and needs.

The performance of Special Finishes is important, too. If your fabrics' selling claims list crease resistance, water repellence, shrink resistance, fast color, moth proofing, mildew resistance, flame proofing, or permanent crispness, you must be able to answer the following questions *before* your selling campaign begins: Is the finish *permanent?* Will it live up to the claims on the label? Will it withstand launderings or dry cleanings? *We can answer these questions for you.*



Textile Division

UNITED STATES TESTING COMPANY, INC.

Established 1880

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prehensive volume brings the user up to date in this field. The author has not only covered the literature of the subject thoroughly, but has contributed a good deal of his own work, particularly with regard to microscopic identification. The value of the photographs of fibers and their cross sections has been increased by the fact that they were all taken under normal conditions, using no special apparatus or lighting, and are reproduced at only two different magnifications, 160x and 800x. This greatly simplifies comparison in the average laboratory.

Most stress is laid on microscopic identification, including detailed description of microscope technique and apparatus, preparation of fibers for study, and cross-section technique. A chapter is included on the removal of sizing and finishing materials and dyes preparatory to further investigation.

In addition to a broad system of chemical and color tests for identification, Luniak gives also a number of methods for quantitative analysis of blends of fibers.

Gauge for Setting Card Mote Knife

A mote knife gauge which is simple and convenient to use has recently been designed. The gauge is sturdily constructed and consists of a fitting plate that is placed on the edge of the knife itself, a scale marked off from 0° to 60°, a small level, and knurled tightening screw.

The gauge is set to the desired angle, the tightening screw locking it in place. Then the fitting plate is placed in the mote knife. The latter is then moved until the bubble indicates the level position, and the knife is set by means of the lock nut in the holder stand.

Whitin Machine Works, Whitinsville, Mass.

For additional data request item K-111, using business reply card on page 206.

New Twister Bobbins for Synthetic Yarns

Twister, take-up and headless bobbins designed for nylon and other high strength synthetic yarns are marketed under the name "Acropak." The design of these bobbins incorporates new techniques and new materials to provide a combination of strength and light weight, shock and wear resistance, and lasting concentricity that offer greatly improved efficiency and lower bobbin costs, according to the manufacturer.

The twister bobbin is a combina-

Guard Costs with TOLEDO All the Way!
SEND For Bulletin No. 2020. Toledo Scale Co. Toledo 12, Ohio

Cut Textile Shipping Costs with ACME STEELSTRAP

ACME STEEL CO. CHICAGO

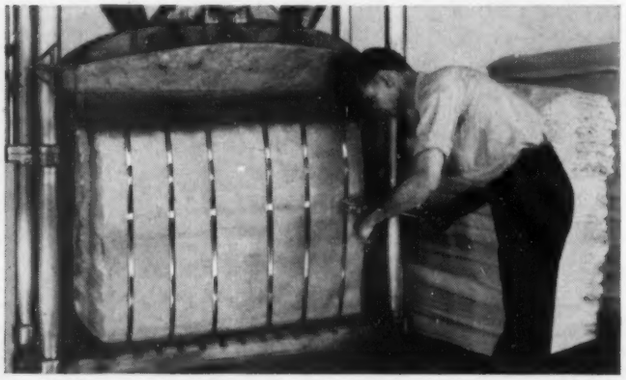
9 out of 10 companies can make important savings by packaging with Acme Steelstrap. Over 45,000 shippers have proved this fact.

Whether you box, bundle or bale *your* textile product—whether you ship in single units, carloads or ships' cargoes—you too can save:

- **on time, labor, and materials needed for packaging**
- **on warehouse space, shipping weight, dunnage and freight claims**
- **on losses from damage and pilferage in transit**

For Acme Steelstrap binds shipments neatly and securely. Makes them easier to load and unload. Gets them to their destination in perfect condition. And does it all simply . . . quickly . . . economically.

Why not find out how Acme Steelstrap can save money for your company? Mail the coupon today.



Baling textiles with Acme Steelstrap saves space, time, and money.

STRAPPING DIVISION

ACME STEEL COMPANY

NEW YORK 17 ATLANTA CHICAGO 8 LOS ANGELES 11

ACME STEEL COMPANY, Dept. TI-119
2838 Archer Avenue, Chicago 8, Illinois

Send your free booklet, "*Savings in Shipping*," containing actual case histories.

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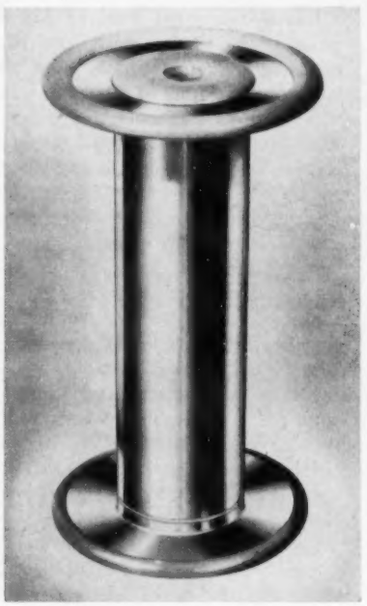
NEW EQUIPMENT (Continued)



Acrometal twister bobbin (U. S. Bobbin & Shuttle Co.)

tion of drawn aluminum alloy "armored" with nylon plastic. Set into the barrel are two beveled nylon compression rings which compensate for any longitudinal expansion and contraction of the barrel during loading and unloading. The aluminum alloy flanges provide a continuous surface, eliminating the possibility of yarn entrapment between the barrel and head.

Nylon rims protect the flanges, resisting the wear of yarn drag. Their high impact resistance also prevents accidental nicks which might cause slubs or breaks. The nylon bearings absorb shocks, retain an accurate fit, and will not "freeze" on the spindle.

This construction is said to provide a lightness that relieves spindle bearings of excess weight, permits higher spindle speeds, and promotes greater yarn production. Also, since absolute concentricity is controlled in manufacture by precision dies, and tested with specially developed instruments, the problem of run-out is also solved.

The take-up bobbin is of drawn aluminum construction, and has the same features of lightness, strength, and absolute concentricity as the twister bobbin. The conventional joint between barrel and flange is eliminated, avoiding yarn entrapment. The aluminum alloy is unaffected by high steaming temperatures and is anodized to prevent yarn stain.

The headless bobbin is fabricated from aluminum alloy and stainless steel. Drawn with precision dies, and

tested for accurate balance, it provides true-running concentricity. The use of the headless bobbin eliminates the need for an expensive mandrel. One operation is all that is necessary in take-apart; the saving in operating time is 75%, according to the manufacturer.

Acrometal Products, Inc., division of U. S. Bobbin & Shuttle Co., Lawrence, Mass.

For additional data, request item K-116, using business reply card on page 206.

Bi-Coil Drawing Frame Accommodates 2-inch Staple

A new bi-coil drawing frame with 14-inch can, electronic stop motion which will eliminate possibility of spark or shock, roll spread that will allow staples up to and including 2 inches in length, spiral roll gearing at head and foot ends, gyrating can table which eliminates all twist, will very shortly be placed on the market, according to R. J. McConnell, vice-president of Whitin Machine Works, in a recent address before the National Association of Cotton Manufacturers.

According to Mr. McConnell, the 14-inch can will contain 23 to 24 pounds, reducing handling; the electronic stop motion will result in a quieter running machine; the wider gauge will allow for 10 ends up; the spiral gearing in head and foot ends will reduce back lash and result in more even sliver; the gyrating can table by eliminating twists results in more even drafting.

Whitin Machine Works, Whitinsville, Mass.

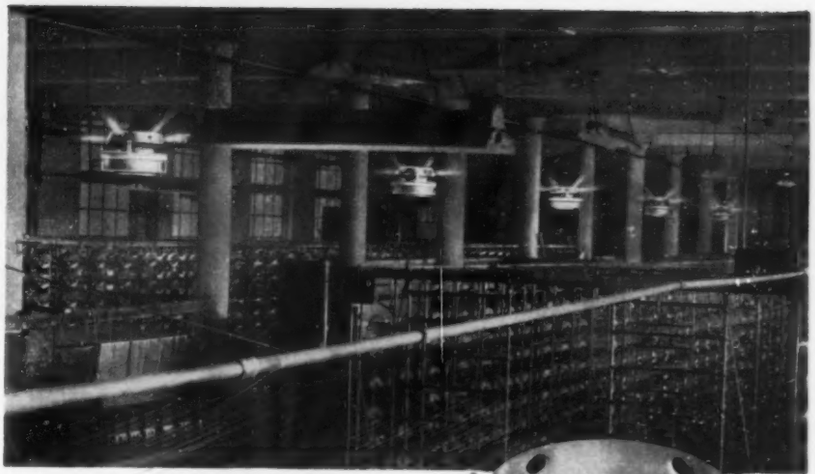
For additional data request item K-106, using business reply card on page 206.

Manually Operated A-C Starters for Loom Motors

A new line of manually operated starters for a-c motors up to 7½ hp is specially designed for use on looms, small pumps, blowers, grinders, etc.

The starters are furnished in both toggle and push-button types in 2-, 3-, and 4-pole forms, Size 0 and 1. The toggle operated types in the above forms and sizes are also furnished, if desired, with cast iron enclosures for use in wet, dust-laden, or hazardous locations. Renewal parts are available for all the new starters.

A feature of these starters is their bimetallic overload protection, which



Walton HUMIDIFIERS

LOW COST INSURANCE AGAINST TROUBLE AND DELAY

Uniform humidity is a major factor in the problem of keeping materials and machines running smoothly at high speeds, eliminating costly stoppage traceable to static breaks and securing uniform quality of products.

For lowest possible cost humidification, investigate these WALTON features —

- **can be installed at any location needed . . . no floor space required.**
- **low installation cost . . . no compressors, duct work, expensive air or drain piping required.**
- **uniform humidification assured by series of zone automatic control stations.**
- **an ideal means for providing either "spot," "booster," or complete humidification.**
- **where lint is present, working parts are filter-protected.**
- **simplicity assures low maintenance cost by plant's own crew.**
- **factory assembled, ready to attach to local water supply.**
- **distribution of water vapor directionally controlled.**

You can simplify and readily solve humidification problems when you have controlled humidification as provided by Walton.

NOW AVAILABLE . . . New MODEL 30 . . . 3 gallons per hour. *Self-contained . . . efficient . . . filter-protected.*

WALTON LABORATORIES, INC.
Irvington, N. J.

MAIL NOW FOR FREE BROCHURE

Walton Laboratories, Inc., Irvington, N. J.
Kindly send us your brochure entitled "Industrial Humidification."
Please refer to TI-11-49

NAME.....
ADDRESS.....
CITY.....STATE.....

Drying Yarn with Filtered Air

saves material, time and dollars

DUST and soot had always been a problem at this large bleaching and dyeing plant. The air circulating through the dryers was laden with these particles which settled on the finished yarn, causing soilage and resulting rejects.

Until recently, the only solution had been to cover the trays of yarn with cloth. This involved extra labor, the expenditure of several thousands of dollars yearly for the covering material —and still complete protection was not obtained.

Then AAF Electro-Matic* precipitators were installed at the air intake. Now super-clean air is circulating in these dryers—dust and soot are no longer a threat—costly half-way protective measures are eliminated.

This is just one of many operations in the textile industry where AAF filters have helped to improve quality of product at a saving. There's a filter of a type and capacity to fit every need—and a nearby AAF representative who can show you where and how clean air can be one of your most profitable investments. Call him today or write direct to

AMERICAN AIR FILTER COMPANY, INC.

275 Central Avenue, Louisville 8, Ky.

In Canada: Darling Bros., Ltd., Montreal, P. Q.

AAF

AIR FILTERS AND ELECTRONIC PRECIPITATORS

Automatic Electronic Precipitator

A-C Starters (General Electric).

replaces the solder-pot relay and provides exceptionally accurate response to overloads. In addition, the starters are equipped with a wide range of heaters, all of which follow closely the motor heating curve.

General Electric Co., Control Division, Schenectady 5, N. Y.

For additional data, request item K-124, using business reply card on page 206.

New 40- and 60-watt Slimline Fluorescent Lamps

The T-12 Slimline fluorescent lamp can now be used in a wider variety of applications as a result of the addition of two smaller companion lamps now on the market.

Newest members of the Slimline fluorescent family are a 48-inch, 40-watt and a 72-inch, 60-watt lamp, both having the same construction as the 75-watt size as well as the same instant-starting feature and 6000-hour average life rating on a 12-hour cycle.

All three lamps have the single-pin base construction, providing easy, safe insertion into lampholders. A simple push-pull action is all that is needed to seat the lamp. Reliable starting under high humidity and sub-normal voltage conditions is assured by an invisible hydrophobic coating.

Sylvania Electric Products, Inc., 500 Fifth Ave., New York 18, N. Y.

For additional data, request item K-104, using business reply card on page 206.

Quick Reversibility Features New Stabilflo Control Valve

A recent development in the design of air-operated control valves makes possible the quick reversibility of action which is the feature of the new Foxboro Stabilflo Valve. In a few

Air-operated valve (Foxboro).

minutes' time and without the use of special tools the valve can be changed from "air to open" to "air to close", or vice versa; and it is not necessary to remove the valve from its installation or to shut down the controlled flow.

To reverse the action of the valve motor it is only necessary to remove the housing assembly, rotate it one quarter-turn, and replace it. This merely requires the removal and replacing of four bolts, which is easily done with an ordinary wrench.

The Foxboro Co., Foxboro, Mass.

For additional data, request item K-105, using business reply card on page 206.

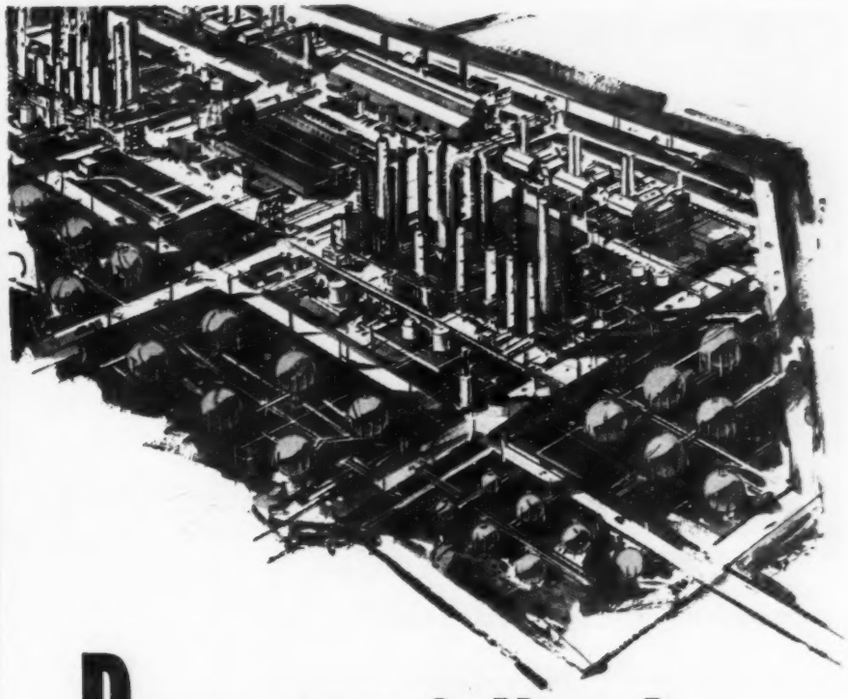
Unit Heater Delivers Heated Air Vertically

A unit heater for vertical delivery of heated air from heights above the floor ranging from 9 to 25 feet has been announced.

Six models are offered in the new line with heating capacities on the standard rated basis of 2 lb steam and 60 F entering air temperature, ranging from 50,800 Btu per hour to 257,000 Btu per hour. With higher steam pressures and other entering air temperatures these capacities are increased.

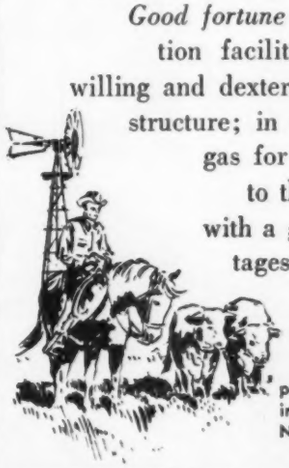
The patented internal cooling leg and close connection of a thermostatic trap assures continuous drainage and full heating capacity under all conditions of use, it is claimed.

Three point suspension from adjustable swivel couplings simplifies suspension and alignment of the unit. Supply and return piping connections



Dare you follow!

The good fortune which rewarded the pioneer cattlemen, farmers, oil men and industrialists of the Texas Coast awaits those leaders of the textile industry who dare follow the blazed trail Southwestward. *Good fortune* in the over-all convenience of readily available raw resources (33% of U. S. cotton, 23% of U. S. wool, 94% of U. S. mohair, and an abundance of synthetic bases). *Good fortune* in the way of climate and transportation facilities; in good industrial relations; in willing and dexterous workers; in reasonableness of tax structure; in the economy and efficiency of natural gas for fuel. Dare to follow. Move your mill to the Texas Gulf Coast where it can grow with a growing economy and enjoy the advantages that belong always to those who dare to be pioneers.



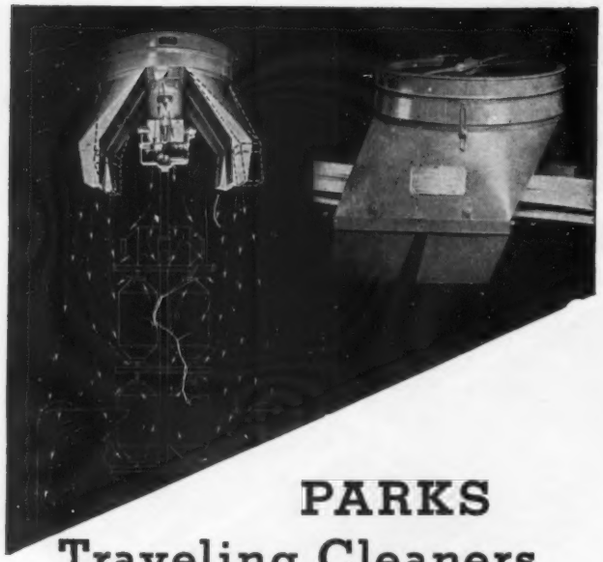
Write, wire or telephone the Houston Pipe Line Company, Houston, Texas, for a detailed survey or special information. Visit us this month while it is cold up North; it will be a real pleasure to show you around.

HOUSTON PIPE LINE CO.

Subsidiary of Houston Oil Company of Texas — GEO. A. HILL, JR., President

Wholesalers of **Natural GAS**

Good fortune awaits textiles in Texas: raw fibres • unsurpassed rail and water transportation • a fine mild climate • excellent industrial relations • an abundant supply of economical, efficient ***natural gas*** for fuel.



PARKS
Traveling Cleaners
have such fixed habits

Every so often they give spinning frames (spoolers, warpers, winders, too) a mild fanning. Lint is shooed away before it has a chance to bunch.

Improves Quality	Improves Quantity
Cleaner Yarn	Fewer Ends Down
Smoother Yarn	Fewer Stops
Fewer Piecings	Fewer Pickouts
Fewer Seconds	Fewer Cutouts

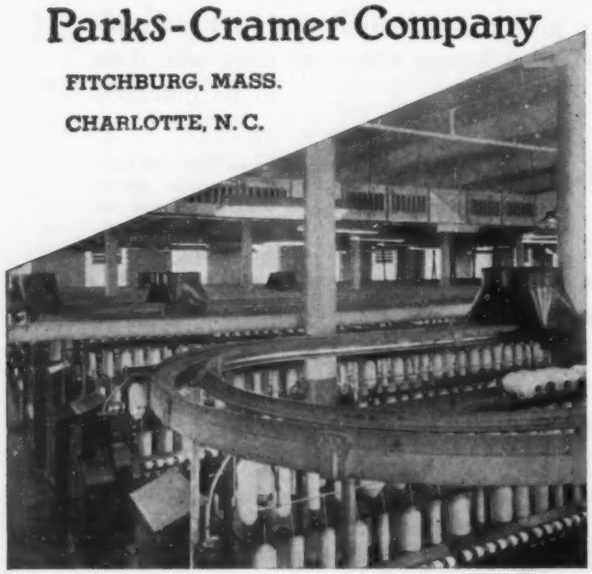
Lessens waste; waste of material, waste of time. Better working conditions. More is accomplished with less effort.

Not a bad investment.

Parks-Cramer Company

FITCHBURG, MASS.

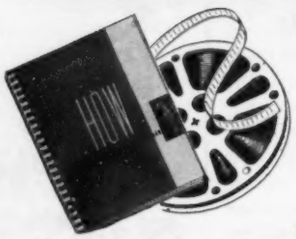
CHARLOTTE, N. C.



Memo —

Graton + Knight
Textile Leathers (Hairitan)
available in the South thru
Dixie Leather Corporation
Albany, Georgia
Must try them soon —

"TEXTILES UNLIMITED"



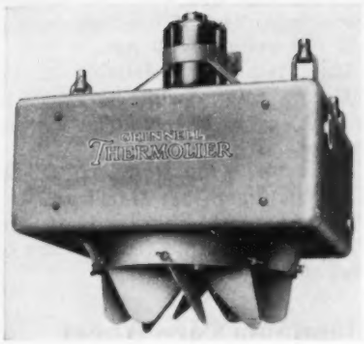
PRESENTS
over 40 ways to improve quality and cut deep into manufacturing costs

Before you modernize, get all the facts you need... the latest information on many new methods and processes. Arrange NOW to see "Textiles Unlimited", General Electric's new 30-minute, full-color, sound movie on textile mill modernization. You will also receive a 100-page reference manual, "How Textile Mills Are Modernizing." It's packed with cost-cutting, quality-improving ideas you'll want! Contact your nearest General Electric office today. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

A More Power To America Program

GENERAL ELECTRIC

654-9



Unit Heater (Grinnell Co. Inc.).

are on one side for compactness, neatness and economy. Permanent built-in pitch for each individual U-Tube assures continuous drainage and permanently bonded individual square fins assure uniform heat transfer.

Grinnell Co., Inc., 277 West Exchange St., Providence 1, R. I.

For additional data, request item K-108, using business reply card on page 206.

Flame-Resistant Plasticizer For Cellulose Acetate

The commercial availability of "Flexol" plasticizer 3CF (tri-2-chlorethyl phosphate), a flame-resistant plasticizer designed primarily for use with cellulose acetate and mixed cellulose esters, has been announced.

When Flexol 3CF is used as the sole plasticizer in cellulose acetate films, concentrations as low as 10 per cent are reported to produce self-extinguishing compositions. This plasticizer pours freely below –25 C and is less volatile than dibutyl phthalate. The solubility of 3CF in mineral oil at 20 C is less than 0.7 per cent by weight, but 3CF is miscible with the common lacquer solvents.

Carbide and Carbon Chemicals Corp., 30 East 42nd St., New York 17, N. Y.

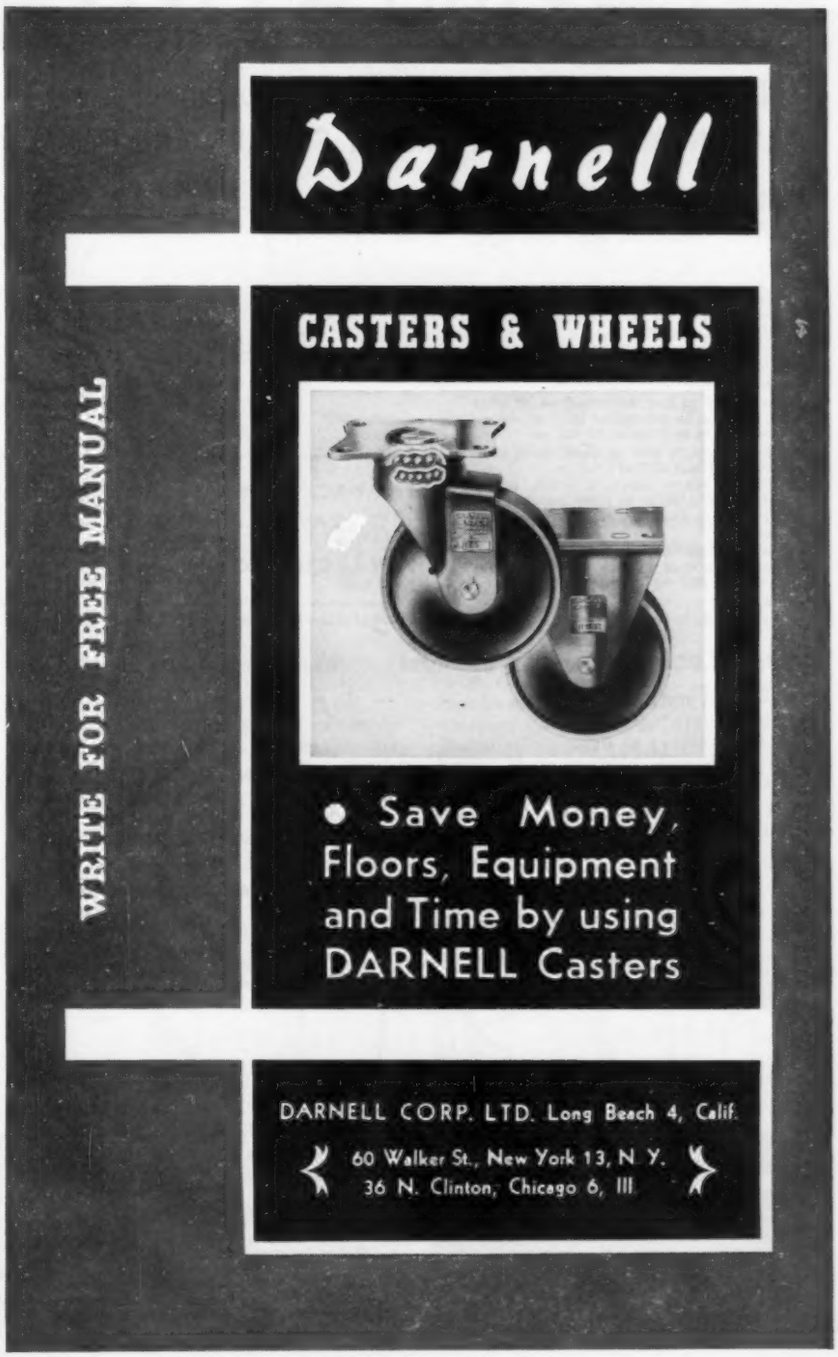
For additional data, request item K-102, using business reply card on page 206.

Steam and Water Purity Indicator

For those plant operations where it is desirable to operate with water or steam having a certain purity, a device recently developed should prove helpful. The equipment measures and indicates the electrical conductance of the solution and will give an "alarm" whenever the conductance exceeds a certain value. Thus, an objectionable condition is known immediately and corrective steps can be instituted before damage is done.

Usually the instrument consists of a conductance cell through which the sample solution under question is passed, a controller by which the actual conductance can be observed and by which the desired limit of conductance is set and an alarm assembly consisting of a bell, a red and a green light.

In operation the green light is on, the red one and the bell off until the set conductance value is exceeded. Then the red light comes on and the bell rings. This will continue so long as the conductance is exceeded but if the continuous bell ringing is not desired, by pushing a button the bell is stopped, the red light remaining on. The red light will stay on as long as the conductance exceeds the set value. When the conductance de-


Darnell
CASTERS & WHEELS
WRITE FOR FREE MANUAL
• Save Money, Floors, Equipment and Time by using DARNELL Casters
DARNELL CORP. LTD. Long Beach 4, Calif.
60 Walker St., New York 13, N. Y.
36 N. Clinton, Chicago 6, Ill.

creases below this value the instrument automatically resets itself and the white light comes on and stays on as long as the conductance stays below the set value.

E. F. Drew & Co., Inc., Power Chemicals Div., 15 East 26th St., New York 10, N. Y.

For additional data, request item K-101, using business reply card on page 206.

High-Gloss, Non-Slip Floor Coating

A high-gloss, non-slip floor coating, designated Duramite, is a scientifically compounded, resinous base finish that is said to keep floors sparkling bright for years without waxing.

Applied to hardwood, linoleum, congoleum, terrazo, or cement, Duramite becomes a tough compact, elastic film that will not peel, chip or crack, regardless of weather. Also, it will not yellow with age.

The product is available in the following colors: white, grey (light or dark), ivory, green, yellow, brown and red.

Duramite Products, 5710 Leith Walk, Baltimore 12, Maryland.

For additional data, request item K-109, using business reply card on page 206.

Aluminum Core Wheel

Release to the market of a new line of aluminum core rubber tread industrial wheels in 6 in., 8 in., and 12 in. sizes has been announced.

Called "Alcore," the wheels are said to be lighter and just as strong as wheels with iron or steel cores. They also have a highly resilient, power-saving rubber-compound tread. Special sizes and tread compounds are available on quantity orders.

The Bassick Co., Bridgeport 2, Conn.

For additional data, request item K-110, using business reply card on page 206.

Corrosion Resisting Plug Valves

A new line of plug valves has been developed for heavy duty corrosive service.

New basic designs, plus a comprehensive range of corrosion resisting alloys, offer a complete plug valve service for nearly every type of operating and corrosive condition in the process industries.

The features of the Type A valve are: A composite plug; the body and gland are made and regularly stocked in Durimet 20, an alloy which provides ample strength and excellent general corrosion resistance; the packing for the stuffing box consists of a combination of corrosion resisting hard and resilient packing rings and an anti-friction packing seal.

Type B plug valves have these features: hard, hardened or hard-faced plugs with grooves cut after grinding and lapping; Teflon diaphragm to provide a completely corrosion resisting self-lubricating seal; provision for lubrication with bulk or stick lubricant.

The Bottom Lubricated Type B Valve (used where plugs are too hard to machine readily) is provided with a lubricator in the body, below the plug.

The Duriron Co., Inc., Dayton 1, Ohio.

For additional data, request item K-115, using business reply card on page 206.

10% LOWER PRICES

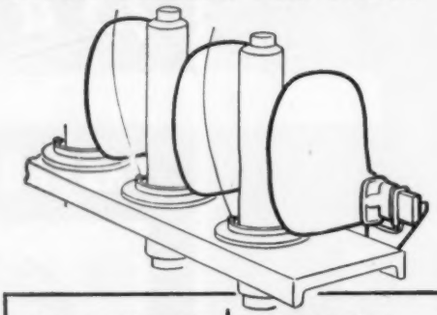
ON WHITEHEAD *Permalite* (MEADOWS LIGHT WEIGHT) ALUMINUM ALLOY SEPARATOR SHIELDS AND PARTS

Enlarged production facilities and careful buying of materials make these low prices possible. Whitehead Permalite Separator Shields are made from light, but strong-as-steel, aluminum alloy. They are designed to mount directly on the ring rail and can be turned back when doffing. They will prove satisfactory on your most troublesome frame.

Whitehead Permalite Separator Shields offer you all of these money-saving, time-saving advantages:

- No attention after installation
- Reduction of live weight—from as much as 300 lbs. in old slotted steel shield assemblies to as little as 35 lbs. per frame.
- Less vibration, wear of cams, worm gears and lifter-rod bearings
- Use of lighter travelers which reduce power costs, wear of rings and travelers
- Fewer ends down: some mills report 27% less
- Solid polished blades (not slotted) which cause less wear on yarn, collect less lint and fly, resulting in smoother yarn

Made in 20 sizes for new assemblies and old-style angle replacements.



TILT BACK TYPE SEPARATORS Now 15c to 25c

COMPLETE ASSEMBLIES Per Spindle Now 24c to 39c

Stainless Steel Available for Rayon Spinning

OVER 4,000,000 IN USE BY MORE THAN 350 AMERICAN MILLS

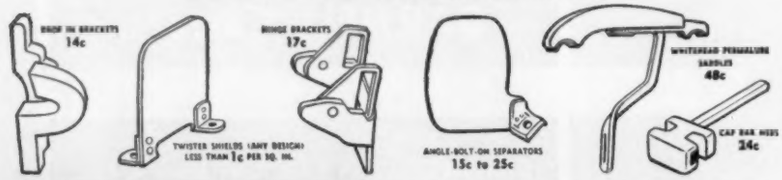
Now your mill can enjoy the advantages of these light-weight, corrosionless separators at prices comparable with old-style, slotted steel assemblies.

EASILY INSTALLED! Simply drill and tap ring rail. We supply aluminum alloy shields and bar drilled to your gauge and ring count, together with proper support hangers, necessary screws and washers.

EACH JOB ENGINEERED! When ordering specify rail width, thickness of back flange, gauge, count of rings in each rail on one side only as 24-22-22-22-24.

ALSO MANUFACTURERS OF SPECIAL ALUMINUM DIE CASTINGS AND STAMPINGS TO YOUR DESIGN AT LOW PRICES

IMMEDIATE DELIVERY FROM STOCK ON ALL ITEMS



PATENTED AND MANUFACTURED BY
WHITEHEAD ENGINEERING CO.
BOX 248 FAIRBURN GEORGIA

EXCLUSIVE DISTRIBUTORS
Meadows Manufacturing Co.
BOX 4354 • ATLANTA, GEORGIA

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North Carolina
Walter Coleman, Box 722, Salisbury, N. C.
Tennessee
Ed F. Brown, 417 Dale Ave., Knoxville, Tenn.
Northern Representative
Matthews Equipment Co., 93A Broadway, Providence, R. I.

Multi-Dolly Continuous Washer

A new and improved Multi-Dolly Continuous Washer offers many advantages in ease of operation, economy of water, simplified automatic synchronization, accessibility and labor savings.

Some of the improvements listed by the manufacturer are as follows: Stainless steel construction throughout; ac-dc drive with rheostat speed control; positive counter current flow, with constant uniform predetermined liquor level in each tub; new slope of tub for smoother operation and fewer stops for re-threading; each unit driven by d-c motor, and kept in step by tensionless compensators; folding or plaiting cleat rolls provided for smoother operation and uniform treatment; flow of water and liquor stops automatically when machine stops; cloth is protected against damage by electric stop motions.

Riggs & Lombard, Inc., Lowell, Mass.

For additional data, request item K-121, using business reply card on page 206.

Rubberized Material Prevents Rug Slippage

Gauze treated with latex, called the Magic Rug Grip, is a new method devised to prevent rug slippage. The thin rubberized material comes in only one size (24" x 36") making it possible to cut the desired individual dimensions. The mat is placed under the rug and no fastening is required. Manufacturer's claims include: no marring of the floor finish, washable, and long lasting; also an occasional washing renews the gripping power.

Modern Tufting Co., Dalton, Ga.

For additional data, request item K-119, using business reply card on page 206.

New Family of Dyes for Cellulose Acetate Fibers

The first of an entirely new family of dyes for cellulose acetate fibers, Eastone Red GLF, has been announced. The new dye is said to be exceptionally fast to light, even in pastel shades.

Other properties claimed for it include excellent fastness to gas fading, sublimation, crocking, and hot pressing, as well as very good fastness to perspiration and washing. Very good dischargeability is also reported.

Eastone Red GLF is a homoge-

Here are the new

SERIES 6 BEAMS

with Improved Inside Supports and other construction improvements

— additional strength.
— stands stress of yarn better.
— truest running.
— withstands rougher handling.

NEW IMPROVED CAST-IRON INSIDE SUPPORT

Expressly designed to run on all new models of high speed warpers.

GK — COTTON
With Improved Cast-iron Inside Supports at ends, and three two-ply wood supports between

GR — RAYON
With Improved Cast-iron Inside Supports at ends, and seven two-ply wood supports between.

GN — NYLON, SYNTHETICS
With five Improved Cast-iron Inside Supports as shown.

We have doubled the number of fastenings securing the staves to the supports, with self-tapping screws used at Improved Inside Supports. The barrel remains smoother, and the beam will withstand rough handling with heavy loads and remain true running.

LITERATURE AND FURTHER DETAILS UPON REQUEST.

ALLEN COMPANY
General Offices:
156 River Road
New Bedford, Mass.

Representatives in all Textile Localities and all Principal countries of the World.

BEAMS FOR ALL TYPES OF WARPERS.
LOOM BEAMS
ADJUSTABLE BEAM HEADS
"Good Warps are made on Good Beams"

Prescription for industrial temperatures
150
200
WESTON
100
250
50 °F 300
READABLE
RELIABLE
RUGGED
WESTON
All-Metal Thermometers
Rugged, all-metal construction . . . stainless steel stems . . . bold, readable dials . . . accuracy within 1% over the entire scale—all add up to the answer to industry's toughest temperature measurement requirements. Choose a dependable WESTON thermometer from a variety of types, stem lengths and scale ranges. Call your jobber, your WESTON representative, or write for Thermometer Bulletin . . . WESTON Electrical Instrument Corporation, 659 Frelinghuysen Avenue, Newark 5, New Jersey.
CONTACT MAKING models for alarm or control purposes.
MAX-MIN models to indicate highest or lowest temperature reached.
WESTON Instruments

neous, highly dispersed dye which produces a medium shade of red with a yellow cast. It possesses good exhaustion and level-dyeing characteristics with very good penetration and build-up at temperatures of from 160 F to 190 F.

The immediate commercial availability of a straight, direct acetate brown, Eastone Brown 2R, has also been announced. This dyestuff dyes acetate fibers a reddish brown and nylon a slightly duller shade.

Unique shade and fastness properties attributed to Eastone Brown 2R are said to make it a valuable color for shading and for producing deep tertiary shades on a variety of fabrics which must meet certain fastness requirements. It is highly recommended by the manufacturer as the base color, in conjunction with the gas-resistant azo blues, in formulating lining shades.

Tennessee Eastman Corp., Kingsport, Tenn.

For additional data, request item K-120, using business reply card on page 206.

"Fulcrum Action" Drum Truck

Incorporating fulcrum action at two points on a straight rocker, the new MorService Drum Cradle Truck enables one man to easily and safely handle drum loads up to 500 lb.

The straight rocker feature enables operator to position nose of the truck close to bottom chime of drum where truck stands upright alone, permitting operator to roll the drum over safety catch located on the nosepiece. Drum and truck are then tilted as one unit to horizontal draining position with little effort and absolute safety aided by two-point fulcrum action.

Morse Mfg. Co., Inc., Syracuse 2, N. Y.

For additional data, request item K-112, using business reply card on page 206.

Rubber Pinch Valve for Corrosive Liquids

A new Rubber Pinch Valve is especially recommended for use in pipe lines handling acids and salt solutions, lime slurry, wet and dry ash, and other abrasive and corrosive slurries and liquids difficult to handle or injurious to metal valves. Its use is applicable to any line except where the material being transported is damaging to rubber or where high

temperatures are involved.

It is comprised of three essential parts: (1) rubber tube, (2) pinching mechanism and (3) housing.

The valve always closes easily and positively, acording to the manufacturer, because the rubber compresses around any coarse particles. Its exposure to freezing weather does not lessen its efficient operation. Other advantages claimed are that the valve provides excellent control, assures leak-proof shut-offs, gives long life under most severe conditions and requires no maintenance over a long period of time.

Ray Wilcox Co., 1436 Land Title Bldg., Philadelphia 10, Pa.

For additional data, request item K-113, using business reply card on page 206.

High-Speed Grinder for Smallest Grinding Wheels

A new 15-ounce pneumatic grinder for operation of grinding wheels of ½-inch diameter and smaller is available.

Compact construction of the 30A-7 grinder makes it an easy-to-handle tool for grinding in close quarters.

Grinder has a speed of 75,000 rpm. Standard spindle collet accommodates mounted grinding wheels with ⅛" diameter shanks. Optional equipment includes spindles with 3/16" or ¼" capacity collet chucks.

Keller Tool Co., Grand Haven, Mich.

For additional data, request item K-123, using business reply card on page 206.

Automatic Lubrication for Pressurized Plug Valves

A new system for lubricating pressurized plug valves has been developed which embodies the use of a lubricant designated Hypermatic. This lubricant is both compressible and expansible and embodies dynamic properties wherein energy may be stored for prolonged periods to give automaticity to its feeding action, according to the manufacturer.

Therefore, if a lubricated plug valve of the Nordstrom type should ever "spring" a leak, the automatic force-feed action of Hypermatic instantly seals the void. If the valve has been neglected, it keeps itself in a state of 100 per cent lubricated condition and remains energized. Pressure does not quickly decline, but may remain for months.

Since Hypermatic is compressible,

Stainless Steel
FOR THE TEXTILE INDUSTRY

5 - 10 - 20 gallon Stainless Steel Dye Buckets specially fabricated to order.

More and more textile manufacturers are becoming aware of the appreciable savings in production through the use of *Stainless Steel* in all wet processes.

The Dye Buckets, as illustrated above, are specially fabricated to order in capacities of 5-10-20 gallons. Use of stainless steel in these buckets permits colors to run true in successive runs, as almost any dye or chemical remains unaffected by metallic contamination.

Truitt's engineering service in the fabrication of carbon and stainless steel is available to the textile, chemical, pulp and other industries. Should your need be tanks, vats or other equipment, remember . . . *Truitt*, one of the South's larger fabricators, will gladly figure your job, without obligation or cost to you.

Fuel Tanks Vats
Stainless and Carbon Steel Fabrications

TRUITT
MANUFACTURING COMPANY
• GREENSBORO, NORTH CAROLINA •

from 50 to 100 per cent more can be inserted in the valve and stored for future use. Turning of the lubricant screw builds up the energy similar to the action of a door check which stores energy to automatically close a door. Any amount of pressure can be built up within the valves but the lubricant will actuate with a pressure of as low as 50 lb. In very high pressure service the energy is built up to 1000 lb and higher. It is self-feeding, even though the line pressure is greatly in excess of the valve's internal lubricant pressure.

Rockwell Manufacturing Company, 400 N. Lexington Ave., Pittsburgh 8, Pa.

For additional data, request item K-114, using business reply card on page 206.

Working Reference on Titanium

To meet the need for a comprehensive working reference volume on titanium, a 591-page book entitled *Titanium—Its Occurrence, Chemistry, and Technology* by Jelks Barksdale, Ph. D., Alabama Polytechnic Institute and former research chemist with National Lead Co., Titanium Division, has been published by The Ronald Press Co., 15 E. 25th St., New York 10, N. Y. (Price, $10.00).

According to the author, abstracts of the entire literature of titanium, in all languages, have been carefully scrutinized, and the essential information has been incorporated in the text. All phases of the subject have been exhaustively covered except the analytical chemistry of titanium which is treated in a more general way, since an earlier work deals primarily with this phase.

Of special interest to those engaged in textile research and processing are the chapters: Uses of Titanium Pigments and Mordants and Dyes.

"Standards and Labels for Consumer Goods"

Standards and Labels for Consumer Goods by Jesse V. Coles, University of California, Berkeley, Calif., is a 556-page book presenting a detailed examination of the present-day status and a history of the development of standards and informative labels for consumers' goods. It is intended to serve as a record of progress and as a blueprint for future action to all who are concerned with the better marketing of better consumers' goods.

Typical of the subjects covered in this book are: Consumers and their

Floor of Northern Hard Maple, Looping Department, Melrose Hosiery Mill, High Point, N. C.

NORTHERN HARD MAPLE, **MFMA**-marked, is so sound a specification for mill floors—particularly textile mills—that architects and engineers have, for years, made it virtually a standard.

Tough, tight-grained, clean, **MFMA** Northern Hard Maple Flooring provides welcome *resilience* underfoot. Workers like it, because they can stand, walk and work on it for hours with minimum fatigue. It does not sliver. It resists the dents and scrapes and pound of truck wheels. It needs only sweeping, as a rule, to keep it thoroughly clean and bright. And "there's always a new floor underneath" with Northern Hard Maple.

And it's Economical! For utmost value, specify **MFMA** Second grade, Second-and-Better grade or Third grade. The varying shadings allowable in these thrifty grades, by **MFMA** strict grading regulations, add beauty and interest, with no sacrifice of performance characteristics. The money saving is appreciable. Consider these economical grades of **MFMA** Northern Hard Maple for your new floors, as well as repairs and over-all modernization projects.

See Sweet's
Section 13/g/6, for catalog data. Ask for new literature on floor maintenance and officially recommended floor finishing products and processes.

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FLOOR WITH *NORTHERN* HARD MAPLE
BEECH AND BIRCH

Problems; Labels on Consumers' Goods; Some Basic Concepts of Standards; How We Use Standards; How We Get Standards; Grade Labeling of Consumers' Goods; and Present Status of Standards and Labels for Consumers' Goods. Clothing and Household textiles are dealt with in Chapter 23.

Publisher is the Ronald Press Co., 15 E. 26th St., New York 10, N. Y. (Price, $5.00).

The British Pound

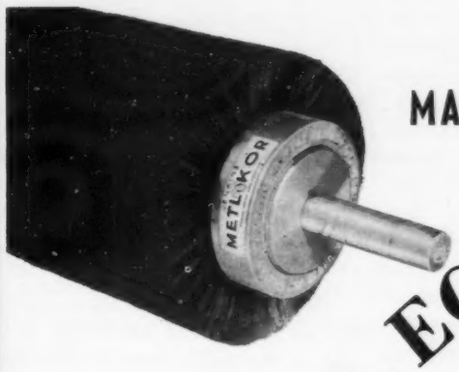
(*Continued from page* 71)

its economy in a healthy condition.

Export trade of a complementary nature is a very necessary and wholesome thing. Nations which are rich in raw materials carry on complementary trade with nations having finished goods for sale. The less self-sufficient a nation is, the more its trade with other nations. Unfortunately, for the development of export trade, the United States is the most self-sufficient nation that ever existed. We can get along very comfortably with almost no imports, and therefore any increase in importations will be quickly felt by some American industry which has been adequately taking care of the American demands.

As far as the British working man is concerned, this devaluation of the pound represents a loss rather than a gain. The principal purpose of cutting the value of the pound was to sell more British goods in the United States, but Britain will have to sell about 40 per cent more goods than before devaluation in order to break even. Since the dollars obtained by the sale of these goods will be chiefly used for buying things for the British working man to consume, he is going to have to do about 40 per cent more work to get the same amount of American goods, which is certainly not an attractive outlook as far as he is concerned, and he could be expected very quickly to put up a clamor for increased wages.

To forestall that, the British



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FOR REAL ECONOMY

Buy Fewer and Better Cylinder Brushes

It's no economy to put good money into old type brushes, just because their first cost is a little less than that of modern METLKORS.*

Jenkins' du Pont nylon bristle METLKOR brushes give 3 to 10 times the active life of other brushes.

When bristle wears down at long last, new bristle can be put on the aluminum or cold drawn steel cores of METLKOR brushes, for another and yet another round of service, indefinitely.

Jenkins' METLKOR brushes can be furnished with all du Pont nylon, nylon and natural bristle, natural bristle and fiber, or in any blend of the three. For fullest economy we recommend all nylon bristle.

Used by efficient Woolen Mills—for flock, raising, laying, carding, combing, singeing, pressing, scouring, teasel cleaning, teaseling, wet brushing, polishing, tiger roll cleaning and steam brushing.

*Trademark Reg. Pending

Types and Sizes for every use in Textile processing.

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CYLINDER BRUSHES

M. W. JENKINS' SONS, INC.

Manufacturers of Industrial Brushes Since 1877

CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

government will have to try to keep wage rates frozen in order to derive any benefit from devaluation. If it is impossible to keep wages down and they rise enough to offset this cut in the value of the pound, the threat to the American textile industry will be removed temporarily at least, but there is nothing to prevent another devaluation. Once a government embarks on the treacherous seas of monetary manipulation to try to cover up fundamental economic weaknesses, there is no limit to the amount of devaluation that may be necessary. Dozens of currencies have been devalued repeatedly, until their monetary units now mean practically nothing.

If the British government is able to make its wage cut stick, and is able to get tariff concessions from the United States government, we believe that it will be almost necessary for our government to establish some quotas governing the importation of British textiles to this country. Certainly, the British can not be expected to step up their dollar trade 50 or 100 per cent, and do it almost entirely at the expense of two or three specialized American industries. The textile industry would almost certainly be the hardest hit, and the chinaware industry would very likely be the next greatest sufferer.

THE UNITED STATES has a political, as well as an economic problem in the maintenance of its textile industry. The late war showed that a strong and healthy textile industry was just as necessary a military asset as airplane factories or ordnance plants. It is impossible to carry on a major war without tremendous textile capacity. Strictly as an economic problem, it might be argued that if some American industry can not hold its ground competitively with foreign products, it should disappear. That would be an eminently sound argument in a world completely and permanently at peace, because under such conditions each country should produce that which it was best fitted to produce, and the whole world would benefit thereby. Under present world conditions, however, it would be suicidal folly to cripple a vital war industry, and if the British are planning to pay for most of the expected increases in American trade by the exportation of textiles, the American textile industry will be seriously injured.

Compared with British textile mills, American plants are very highly mechanized and streamlined. There has been a great deal of resistance in Britain to the introduction of American mass production methods. The labor unions have fought any labor saving equipment, just as they have fought it in this country. Happily, the unions, until recently, have not been strong enough in the United States to do much damage, and now, thanks to our not having been union-ridden for so many years, we have made mass pro-

RODA — High grade gas, by-product and steam coal from Wise County, Va., on the Interstate Railroad.

IDENDRON — High grade gas, by-product, steam and domestic coal from Wise County, Va., on the Interstate Railroad.

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CRITERION COAL — High grade gas, by-product, steam and domestic coal—Pittsburgh seam from Irwin Basin, Westmoreland County, Pennsylvania, on the Penna. Railroad.

CROZER — Genuine Pocahontas from McDowell County, W. Va., on the Norfolk & Western Railroad.

LYNCO — High fusion coking coal for by-product, industrial stoker and pulverizer use from Wyoming Co., W. Va., on the Vgn. Ry.

Old Kentucky — Hazard No. 4 and No. 7 steam and domestic coal from Wiscoal, Knott County, Kentucky, on the L. & N. Railroad.

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Our personnel with the experience gained through long and varied marketing activity assures effective servicing of any fuel requirement.

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duction a part of our national thinking to such an extent that it is very difficult for even the most rabid featherbedders to cut production to the levels obtained in most other countries.

The British manufacturer has also been very conservative about adopting new methods, but of course there is no incentive to spend money for new high production equipment if your employees refuse to produce with it. We have had the same problem in this country, where the labor unions destroyed the mills of Fall River through their refusal to accept automatic looms and other mass production machinery. The situation in Britain is even worse.

However, there is no certainty that these conditions in Britain might not change. If the labor unionists could ever be convinced that the only way to raise wages and stop further devaluation of the pound is to put in the labor saving devices that have saved the lives of the American mills, and if these labor unions were reasonably convinced that political necessity would keep the American market open to them, it is entirely possible that in a few years there would be a great many British mills just as efficient as any American plants. The entire British textile industry has been represented as being hopelessly antiquated and practically worn out. There has been no reason for manufacturers to replace old antiquated and obsolete machinery with new antiquated and obsolete machinery, but if they could replace it with modern high production equipment, they could again revolutionize the British textile industry as it was revolutionized the early part of the 19th Century.

If British textile mills were equipped with American type machinery, and operated with American work loads, and the British textile worker could be kept content with half the wages of an American worker, there would not be an American textile plant that could stay in business without some sort of government intervention.

If American textile industry executives have not been doing some serious thinking about the impli-

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PERMANENT... On cotton, acetate, rayon, bemberg, an Onyxsan finish is *permanent*. On other fibers the finish will show outstanding resistance to washing.

CATIONIC... All Onyxsan finishes are cationic. They became an integral part of the fiber, in contrast to other softeners having a mere surface effect.

WIDE RANGE... You can select your Onyxsan or combination of Onyxsans to give any type of hand you want, from the soft fluffiness of new fallen snow, to a hard, waxy feel. Where nap is important, an Onyxsan will leave a fine, soft nap, even on rough, nubby goods.

UNIFORM AND STABLE... Onyxsans are specific chemical compounds capable of being held to uniform characteristics. They are stable, and develop no odors, rancidity, mark-off or stiffness in treated goods. They are compatible with hard water, electrolytes and organic acids.

EASY TO USE... There are no operational changes when you adopt any of the Onyxsans. They are easily applied in the jig, quetsch, padder or dye beck.

ECONOMICAL... Only *small* quantities of any Onyxsan are required for treating practically any textile, or for any effects.

ONYX TECHNICAL BULLETIN TX-1

gives the detailed story on every one of the Onyxsans—their characteristics, uses and advantages. Write for a copy, or for as many copies as you think you can use to advantage.

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For Export: Onyx International, Jersey City 2, N. J.

onyx CHEMICALS FOR DYEING AND FINISHING

cations of this cheaper British money, they will soon have to, and it would be wise for the leaders of the industry to offer some solutions to this problem and submit these to their representatives in Congress without waiting until an emergency arises.

Irrigated Cotton

(*Continued from page* 106)

gum on the yarn which can cause much trouble when the yarn is coned.

Furthermore, these mills have not noted excessive fly from unoiled cotton, and though they admit a characteristic brittleness,, they can not find any more tendency to break in combing or drawing when unoiled than when oiled.

Carding. Having, undoubtedly, learned from each other at discussion meetings or by personal contact, these mills recommended reverse card settings. Flats are set with a No. 9 gauge at the rear of the cylinder, and this setting is gradually increased toward the front. The front setting is made with a No. 12 gauge. It is claimed that loading of flats, which had formerly given trouble, is avoided by these unusual reverse settings.

Flat speeds have been increased to 6 inches per minute, and it is recommended that the front knife, or percentage plate, be checked frequently to assure removal of exactly 13 grains per flat. A large variation in this setting will greatly interfere with the efficient operation of the card.

Humidity recommended for both carding and drawing is 50%.

Further Processing. No particular difficulty is being experienced by these mills in either drawing or spinning. They did, in several instances, receive complaints from purchasers of knitting yarns who claimed that "something sticky" prevented the free unwinding of yarn from cones on humid days. It is believed that this was caused by the oil added at the gin. These complaints are rare, and they have been virtually eliminated by maintaining a humidity of no higher than 50% in winding, and by cutting out the use of oil at the picker.

Bad Lot. It is worth noting here that one mill whose method of running irrigated cotton would have placed it in this Mill Group, stopped using irrigated cotton about a year ago, after having used it continuously for a number of years. One large shipment from California could not be run, using their usual procedures. It broke in carding, forming an unusually large number of neps; it could not be successfully combed; and it lapped to the rolls so constantly that it could not be put through the mill.

Samples of the cotton were sent

(*Continued on page* 207)

FACTORING PROVIDES PAYMENT TODAY FOR TODAY'S SHIPMENT

FACTORING DIVISION
TRUST COMPANY OF GEORGIA
ATLANTA, GEORGIA
Next door to every Mill in the South

CALCO dyelines

No. 11 of a series

PUBLISHED BY AMERICAN Cyanamid COMPANY CALCO CHEMICAL DIVISION
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A SUCCESS STORY: The Calco Copper Browns

Right from their first introduction, the Calco Copper Browns exceeded expectations by their superb performance. Available in three forms, Calcosol* Copper Brown Paste, Calcosol Copper Brown Printing Paste and Calcoloid* Copper Brown Double Powder offer the following advantages: (1) Very desirable *clear red-brown shade;* (2) Ability to act as a fast red shading element in vat color combinations; (3) Excellent fastness—especially fastness to *light* even in very light shades—which is unsurpassed by any other vat brown of similar shade. In addition, Calcosol Copper Brown Printing Paste is readily adaptable to printing very fast dusty roses and tans with pleasing tones.

Calcoloid Copper Brown Powder or Calcosol Copper Brown Paste are recommended for package yarn, raw stock, skein yarn and piece goods dyeing, cotton or viscose. For printing cotton and rayon, Calcosol Copper Brown Printing Paste is recommended.

*Trade-mark

Calconyl Blue Now Available in Two Forms

Stabilized azoic blues for cotton printing, in either the powder or solution form, are now available. Calconyl* Blue G Powder and Calconyl Blue G Single Solution produce clear, uniform blues with good fastness to washing, hot pressing, perspiration, dry cleaning and plissé. They offer fairly good fastness to light.

The Calconyl Blues augment the line of Calconyl Reds, Scarlets and Yellows now offered as powders or solutions. Try them in your next cotton printing pattern.

*Trade-mark

How to Lower Costs by Minimum Caustic and Hydro Usage

The use of minimum concentrations of caustic and hydro offers opportunity for economies in package dyeing. Fresh, undeteriorated hydro, approximately 92% $Na_2S_2O_4$, gives full money value in the dyebath, since the absence of the products of acidic decomposition permits savings in the caustic soda which would otherwise be expended for neutralization. And the absence of electrolytes, formed by reaction of caustic soda and the products of acidic decomposition, promotes level dyeing, as also does a low concentration of caustic and hydro in the dyebath.

Where equipment is well maintained, ¼ ounce of caustic and hydro per gallon is usually sufficient for light shades; ¼ to ½ ounce for medium, and frequently for dark shades. These quantities are usually specified for the pigment method operated at 180° F. —200° F.

Star Performers Among The Calco Naphthosols

There are about fifty known naphthols and over thirty known fast color bases suitable for textile mill use. Now, get your pencil out and figure how many combinations you can get, using a single naphthol with a single diazotized fast color base. Then add to this the additional combinations which can be made by mixing two or more naphthols, or two or more bases.

The result: thousands of shades with varying properties. Yet, comparatively few combinations are used very extensively because only these produce the desired shades and fastness, most economically and with greatest dependability. The following list contains some of the major products which are consistently popular in the trade.

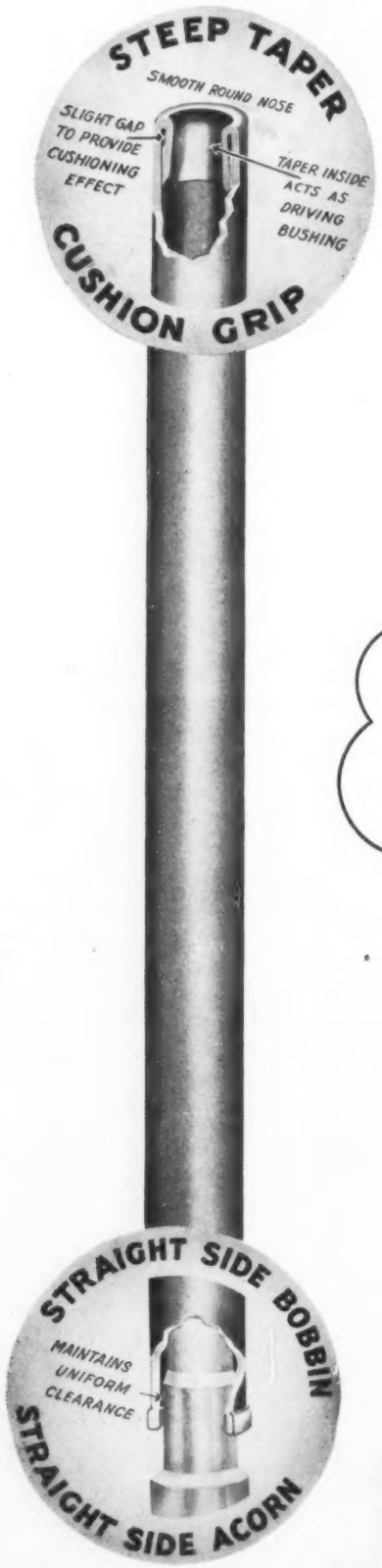
Calco Naphthosol ASF Conc.; ASG; ASP; SWF; BO; BS; OL; D.

In addition, there are the Calco Naphthosol Fast Color Bases: Red KB Base; Red GL Base; Red GG Base; Red 3GL Base; Red B Base; Scarlet RC Base; Scarlet G Base; Bordeaux GP Base; Blue B Base.

Calco Naphthosols and Calco Naphthosol Fast Color Bases are highly recommended for dyeing or printing of cotton. Full bright shades of excellent fastness are most economically produced with these dyes.

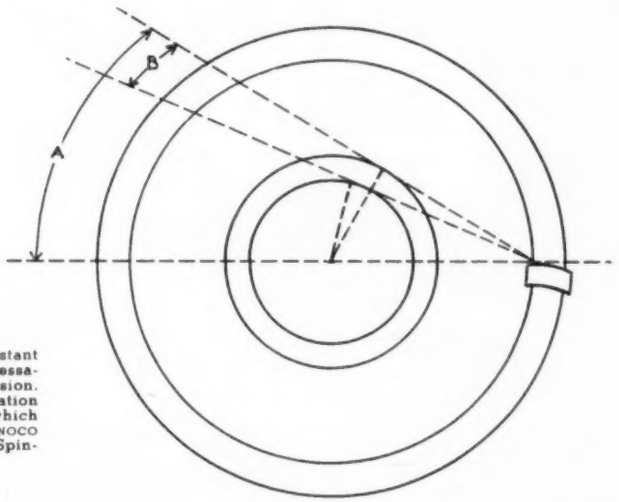
Calco's daily electricity consumption equals that of a city of 45,000 homes.

For UNIFORM Yarn Tension



SONOCO
Straight-Side

WARP SPINNING BOBBIN



Angle A shows the constant angle of yarn pull necessary for uniform yarn tension. Angle B shows the variation in angle of yarn pull which is eliminated by the SONOCO Straight Side Warp Spinning Bobbin.

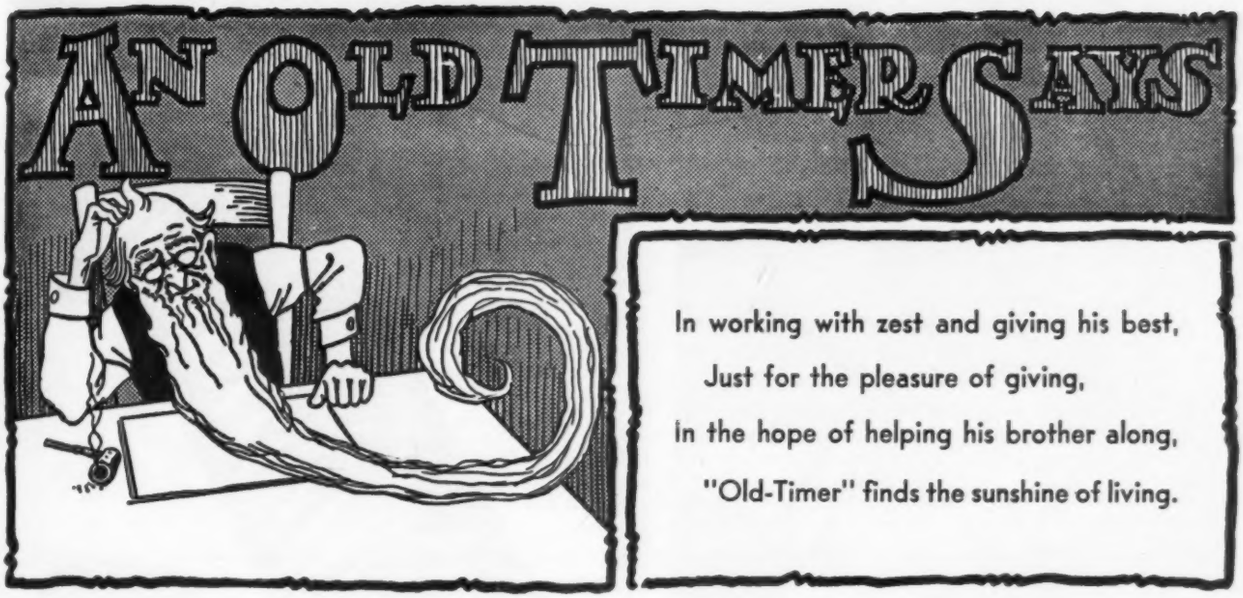
Yarn tension varies with angle of yarn pull. Variable tension means non-uniformity in yarn with more ends down. The *straight-side* principle of the SONOCO Warp Spinning Bobbin eliminates variable tension in yarn pull—and also permits top drive contact, easier doffing, and larger yarn package.

Available in all standard lengths and outside diameters to meet various traverse lengths and ring diameters.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Random Thoughts

Executive Ability

YOU HAVE shown executive ability by becoming an overseer, superintendent, or manager, but are you trying to develop that executive ability or are you just waiting for your next promotion?

That waiting attitude, brother, may delay your next promotion somewhat. You do not necessarily have to put forth very much extra effort to further develop your executive ability, but probably you need a different kind of effort. Why don't you give this matter some thought to find out if you are putting forth the proper kind of effort to develop your executive ability?

You know you can teach a man the correct way to set a pick motion—a stop motion or the harness cams on a loom—how to plumb a spindle on a spinning frame—how to set the flats and screens on a card—but no section man is going to run a section as it should be run unless he adds his own brains to what you have taught him.

By the same reasoning, your executive ability is not going to develop as it should unless you put your brains to work along definite lines to that goal. Yes, we know how you think the other fellow got the "breaks" and was promoted when you had an idea that your time was next. And we admit that in some instances some guys do get the breaks when they really do not deserve them. However, the fellows who sit around waiting for the breaks are the very ones who usually do not get them. The surest procedure for every overseer, superintendent, or manager is to methodically plan to improve his executive ability if he wants to pay Uncle Sam more income tax.

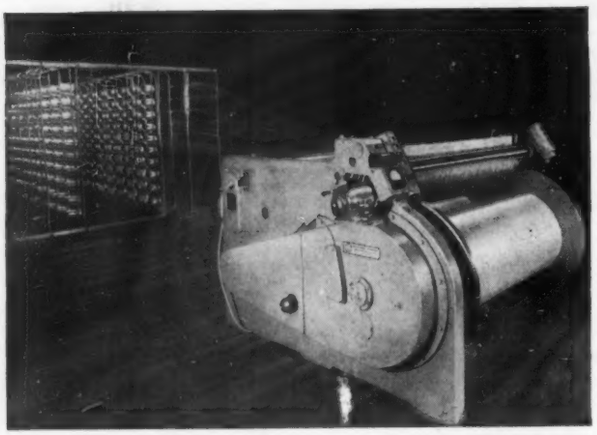
We believe one of the paramount qualities an operating executive should strive to develop is that of selling himself to his subordinates and associates. You certainly must have the respect, confidence, and loyalty of your men before you can expect your enthusiasm in running the job to be passed on to them. No one man can do all there is to be done to run any job successfully. Then it is up to you to sell yourself to your men so that you will not only be able to put your ideas into successful operation, but will receive the benefit of their brains in carrying out your instructions, too.

Are You a Good Salesman?

EVERY business man has something to sell. You, Mr. Overseer, Superintendent, or Manager, are in the textile business and therefore what you have to sell is your services, your experience, and ability as a textile manufacturer. If you do not put a price on yourself and then do your best to prove that price is a bargain, then you are leaving it up to the buyer to fix the price, which is not good business.

We do not mean to infer that you can just arbitrarily say that you are worth $10,000 and get it. Heck no! Rather what we are trying to say is, if you do not think you are worth over $5,000—well you are not likely to get much more. Many men are self-conscious in this respect, but just remember that the textile industry is on the look-out for outstanding men, and they are hard to find. It is not a matter of salary. If you prepare yourself as you should and can—Mr. Handsome Salary will find you.

Meeting the Test of Actual Mill Operation



THE NEW SIPP-EASTWOOD ELECTRICALLY CONTROLLED

HIGH SPEED WARPER

—can run at speeds of 150 to 900 yards per minute in mills where only the most efficient equipment is tolerated. It builds beams up to 36 inches in diameter, 54¼ inches or wider between heads, with practically no vibration because of smoothly applied power and extra heavy construction

FEATURES THAT ARE OUTSTANDING:

1. Electrical control of warp speed.
2. Electrical indication of speed at all times.
3. Pushbutton controls throughout.
4. Static Elimination.
5. Motor-mounted magnetic brakes.
6. Magnetically operated hydraulic brakes for auxiliary braking of beam, measuring roll and pressure roll, and to hold the beam at a standstill.
7. Separate hydraulic system for handling beams in and out.
8. AC-DC drive.

Ask for all the facts about this splendid warper.

SIPP-EASTWOOD CORPORATION
45 Keen Street **Paterson, New Jersey**

DOMESTIC AGENTS:

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"UNBRAKO" SQUARE HEAD SET SCREW WITH KNURLED CUP POINT

"UNBRAKO" SOCKET SET SCREW WITH KNURLED CUP POINT

UNBRAKO

SELF-LOCKING SET SCREWS

. . . KNURLED ON THE POINT TO LOCK SECURELY

Once tightened up, "UNBRAKO" Set Screws, with the *Knurled Cup Points*, defy vibration . . . they "won't shake loose" . . . and they can be used over again almost indefinitely without losing any of their locking ability.

. . . AND THE HEADS WON'T TWIST OFF!

"UNBRAKO" Square Head Set Screws are made of a high-grade alloy steel, specially heat-treated, and it is practically impossible to twist their heads off — a most important feature — because, if a head should twist off in a hard-to-get-at place—and they are aplenty—every maintenance man knows that it costs many times the price of the screw to remove it. Available in sizes ¼" to 1", in a full range of lengths. Other sizes to special order. Write us for detailed information and for the name of your nearest "UNBRAKO" Distributor.

Other "UNBRAKO" Products include:

Knurled Socket Head Cap Screws • Knurled Socket Head Stripper Bolts • Precision-Ground Dowel Pins • Fully-Formed Pressure Plugs.

Knurling of Socket Screws originated with "Unbrako" in 1934.

SPS STANDARD PRESSED STEEL CO.
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"Serving Industry continuously since 1903 through Industrial Distributors"

PERSONAL NOTES

ABOUT MEN YOU KNOW

Edward F. Addiss, former treasurer and chairman of the executive committee of Burlington Mills Corp., has joined Verney Corporation, New York, N. Y., and will fill the newly created position of executive vice-president. **Joseph F. Berlinger,** president of the Joseph Berlinger Co., a sales subsidiary of Verney, has been named vice-president in charge of sales for Verney.

Miss **Virginia Jewel,** former fashion director of the Cotton-Textile Institute and National Cotton Council, has become associated with Reader Mail, Inc., New York, N. Y., as assistant to the president, in charge of public relations, promotion, publicity and advertising.

T. D. Hollingsworth, former night assistant superintendent, has been promoted to night superintendent of the Lynchburg, Va., division of the Consolidated Textile Co., Inc.

Charles C. Hammer has been elevated from assistant controller to controller of Textron Inc., Providence, R. I. He succeeds **Marshall S. Delavan,** resigned.

R. C. Harrington, former technical director, has been appointed manager of tire cord production of United States Rubber Company's textile division, New York. **L. D. Swearingen** will assist Mr. Harrington, and **S. H. Sherman** has been made development manager for the division.

Dr. Oliver S. Plantinga, former plant manager of the chemical division of the Marathon Corp., Rothschild, Wis., has joined Johnson & Johnson, New Brunswick, N. J., as director of cotton and gauze research.

Clifford W. Brown, former agent for Arlington Mills, has succeeded **Arthur Ingraham, Jr.,** as agent of Wanskuck Co. Providence, R. I. Mr. Brown has also been appointed agent of the Oakland (R.I.) Worsted Co., Inc. Mr. Ingraham has been made second vice-president of Wanskuck.

Walter L. Goddard, former general manager of Paton Mfg. Co., Sherbrooke, Que., Canada, has become assistant resident manager of Ayer Mills of the American Woolen Co., Lawrence, Mass. He succeeds **R. Norman Brown,** who is now resident manager of the company's Glove Mills in Utica, N. Y.

John P. Harrison, vice-president and general manager of Commander Mills, Inc., Sand Springs, Oklahoma, has resigned.

Harry G. Kletcher has been transferred from Huntsville (Ala.) Mfg. Co. to Lane Cotton Mills in New Orleans, La., as controller. **Burton Case,** former Huntsville office manager, has been promoted to controller.

Dr. G. Nathan Reed, former head of the organic chemistry division of the Institute of Textile Technology, Charlottesville, Va., has succeeded **Dr. Simon Williams** as dean of faculty of Lowell (Mass.) Textile Institute.

John M. Hughlett has resigned as vice-president and general sales manager of Dan River Mills, Inc., Danville, Va. It has been announced that **Willfred W. Lufkin, Jr.,** former assistant general sales manager, will be in charge of the sales department. Mr. Hughlett has joined J. P. Stevens & Co., Inc., in an executive capacity.

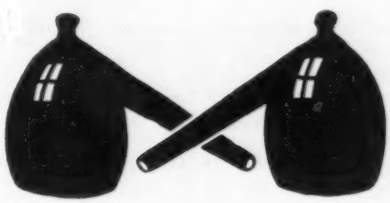
William F. Robertson, former vice-president, general manager and director of North Carolina Finishing Co., Salisbury, N. C., has been appointed assistant general manager of the Ware Shoals (S.C.) division of Riegel Textile Corp.

Malcolm A. Cross, formerly associated with the personnel division of Columbian Carbon Co., has been named director of industrial relations at Dan River Mills, Inc., Danville, Va. **Robert S. Dempsey,** former New York manager of sales and development for the textile chemical department of the Merrimac Division of Monsanto Chemical Co., has joined Dan River as head of merchandising

STODGHILL & COMPANY

TEXTILE CHEMICALS

ATLANTA



"THE SIZE THAT SATISFIES"

Stainless Steel CYLINDERS

...accurate...true running

Blickman Built Stainless Steel drying cylinder . . . 60 inch diameter. Plate No. 7252

Stainless Steel drying rolls . . . high pressure steam, built to ASME code specifications.

FOR TROUBLE-FREE SERVICE UNDER MODERN HIGH SPEED TEXTILE OPERATIONS

For protecting the fabrics you process, Blickman Built cylinders are being recommended and used by an increasing number of manufacturers of textile finishing machinery. The reason is simple. Blickman specializes in the fabrication of stainless steel cylinders to give you a more accurate, more dependable, safer cylinder. Our special plant equipment and controlled welding procedures assure rugged construction for long service. Blickman Built cylinders are available through many textile machine builders or through us.

- **DIMENSIONS**—Built in any diameters or lengths to meet your requirements.
- **FINISH**—Polished on our own automatic machines to as high as number 6 finish, if you require it.
- **CODE REQUIREMENTS**—Cylinders built to conform to local and ASME national board codes.
- **INSPECTION**—Tested at twice working pressure . . . thoroughly checked for leaks.
- **CONSTRUCTION**—Mechanically sized for accuracy and true running. Furnished with or without heads.
- **TYPES**—Dry cans, presetting cylinders, cooling cylinders, etc.

Specify Blickman Built cylinders through your textile machine builder . . . or send your inquiry direct to us. Quotations furnished promptly.

EST. 1889

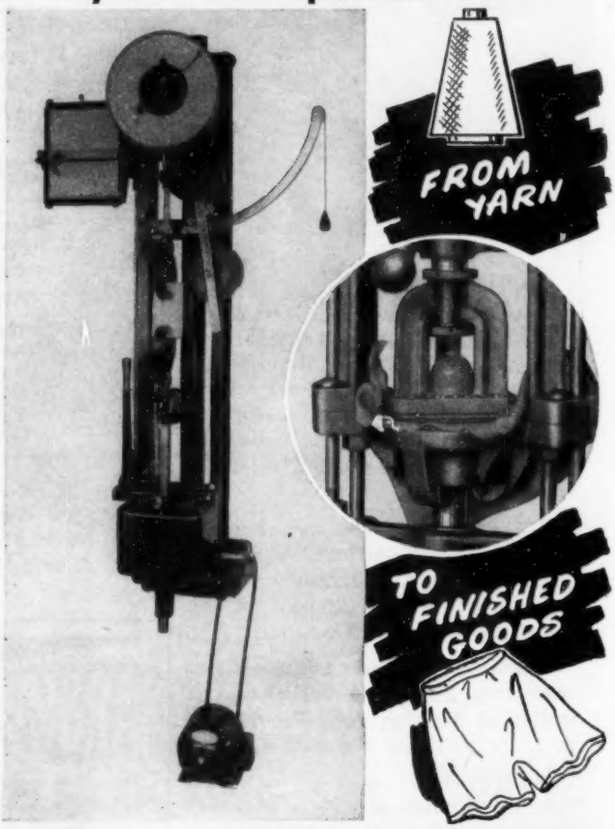
S. BLICKMAN, INC. 211 GREGORY AVENUE WEEHAWKEN, N. J.

Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, heads, tanks.

TESTED IS TRUSTED

Mr. Knitting Superintendent

here is a machine to span your test requirements—



MODEL J TENSILE TESTER
WITH BALL-BURST ATTACHMENT

*Scott Tester Model J is standard in the Textile Industry for yarn tensile testing in skein, as well as tensile testing of fabric in various sample forms. A burst attachment is also provided, especially designed for knit goods. In addition, this machine can also be used to test the strength of seams and welts, and of course to test thread itself. Made in various capacities, up to 500 lbs. tensile.

*Registered Trademark

REQUEST CATALOG 49

SCOTT TESTERS, INC.

60 BLACKSTONE ST. PROVIDENCE, R. I.

Southern Representative

JOHN KLINCK

304 W. Forest Ave. North Augusta, S. Car.

Standard of the World

and promotion of the company's melamine resin.

Ridley Watts, formerly in charge of merchandising for Spartan Mills, Beaumont Mfg. Co. and Startex Mills, has been chosen to take charge of the New York office of Montgomery Textiles, Inc.

Dr. A. J. L. Moritz has retired as technical vice-president of the American Enka Corp., Asheville, N. C., but will remain as advisor.

Morton Goodspeed, a director, has been elected executive vice-president of William Iselin & Company, Inc., New York, N. Y.

Clifford H. Ashley, former manufacturing agent of Nonquitt Mills, New Bedford, Mass., has become manager of the Aberdeen, N. C., plant of Robbins Cloth Mills, Inc.

J. Freyhan Odenheimer has announced his resignation as president of Lane Cotton Mills, New Orleans, La.

James H. Burgess, former assistant superintendent, has been promoted to superintendent of the Lynchburg, Va., division of the Consolidated Textile Co., Inc.

Fieldcrest Mills, Spray, N. C., has made known the following mill management appointments: **J. H. Lindsay,** manager of the North Carolina domestics mills, is manager of the Towel Mill at Fieldale, Va.; **J. H. Ripple,** manager of the Towel Mill, is now manager of the Blanket and Sheeting Mills, Draper, N. C.; **R. A. Harris** is assistant manager of the Blanket Mill; **H. T. Bundy** is assistant manager of the Sheeting Mill; and **D. A. Purcell** is superintendent of the Sheeting Mill. It has also been announced that management of the Draper mills and the Spray finishing plants will be separated.

Obituaries

Robert Lee Bentley, 66, assistant superintendent of Palmetto (Ga.) Cotton Mills, passed away recently at his home.

Richard B. Atkins, superintendent of the knitting room of Washington Mills, Mayodan, N. C., died suddenly at his home last September.

Isaac Laden, founder of I. Laden Co., importer and manufacturer of textiles and linens, passed away suddenly last month.

Edward T. Comly, 70, president of Anchor Thread Co., Groveville, N. J., and also head of Lawrence Hose Co., Trenton, N. J., passed away during the early part of September after an illness of several months.

Carl A. Rudisill, 65, founder and president of Carlton Yarn Mills, Inc., Cherryville, N. C., died September 9 while at a Charlotte, N. C., hospital. Mr. Rudisill was stricken in January of 1944, but continued active interest in the mill until shortly before his death.

Frank C. Maddox, vice-president in charge of sales for Norwich (N.Y.) Knitting Co., passed away recently.

W. Emmett Bittner, 52, vice-president of purchases for the Diamond Alkali Co., Cleveland, Ohio, died September 2 while at the Mercy Hospital in Pittsburgh, Pa.

J. Arthur Atwood, 85, president of Wauregan (Conn.) Mills, Ponemah Mills, Taftville, Conn., and a director of Lorraine Mfg. Co., Pawtucket, R. I.; Samoset Mfg. Co., Valley Falls, R. I.; and Ancona Co., Fall River, Mass., died at his home in Wauregan last September.

The Weaver's Friend

Call your KEEVER SALES - SERVICE MAN On Slashing Problems

CHARLES C. SWITZER
Division Manager
Greenville, S. C.

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TEXTILE SALES DIVISION · THE KEEVER STARCH CO.
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EXPERTS at WORK

BOYCE
WEAVER'S
KNOTTER

Fast, accurate, dependable—that's the kind of work you will always obtain with the Boyce Weaver's Knotter. This precision-built instrument ties a perfect weaver's knot and clips the ends clean and even in one smooth, fast action.

Fast, accurate, dependable—is the kind of service offered by our Maintenance and Repair Department. Here, skilled technicians inspect, adjust and repair every instrument in use. By loaning you other knotters this service is yours —on request or on a periodic schedule.

MILL DEVICES COMPANY
DIVISION OF
A. B. CARTER, INC.
GASTONIA N. C.

REPRESENTATIVES

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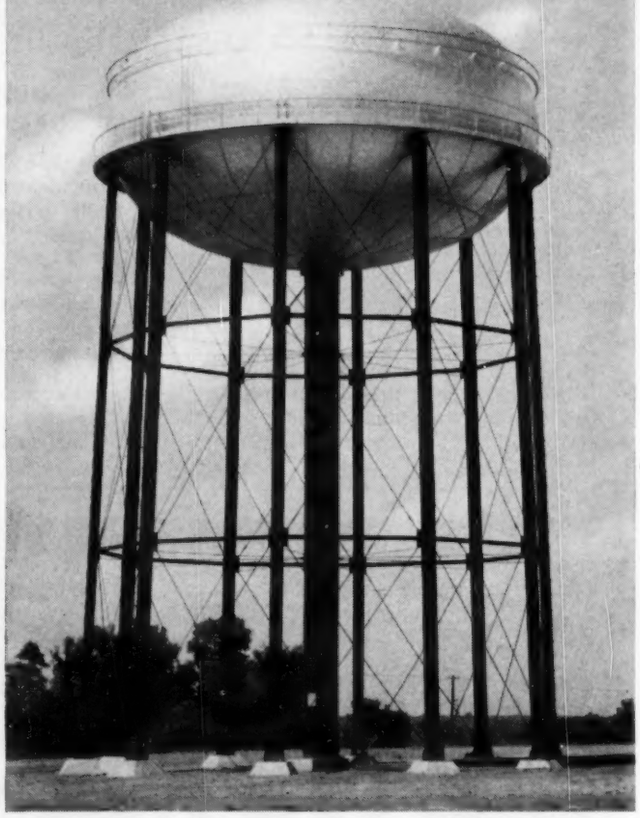
R. D. HUGHES SALES CO., 1812 SOUTH MAIN STREET, DALLAS, TEXAS
HUGH WILLIAMS & CO., 47 COLBORNE ST., TORONTO 1, CANADA

BEST DEFENSE AGAINST FIRE

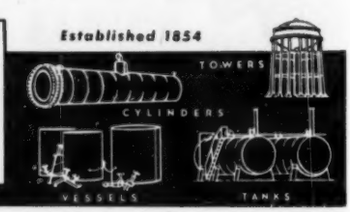


● For water when you *need* it, you can't beat an elevated tank. Backed by 95 years' experience in tank design and fabrication, you can rely on COLE tanks to more than meet insurance requirements and ASME standards, and to provide you with an extra margin of safety.

Whether you desire a tank of 5,000 or 2,000,000 gallons—Cole engineers will give you the *right* design for the specifications. Write for the latest Cole catalog—"Tank Talk."

R.D. COLE
MANUFACTURING CO.
NEWNAN, GA.

Established 1854



SUPPLIERS' NEWS

WHAT THEY ARE DOING

James I. Teat, formerly with Whittier Mills Company, Chattahoochee, Ga., in an operating executive capacity, has become associated with **Southeastern Engineering Company** of West Point, Ga., specialists in waste reduction and waste control. Mr. Teat is a graduate of the Georgia Institute of Technology. His past

Mr. Teat

experience includes service with the A. French Textile School of Georgia Tech, the Training Within Industry Division of the War Manpower Commission, and director of training of the Alabama Drydock & Ship Building Company. During the war he spent three years in the navy, 2½ of which was on foreign service.

Charles P. Collins, former president and director of the Norma-Hoffman Bearings Corporation, Stamford, Conn., has been elected vice-president and general manager of **Davis and Geck, Inc.,** surgical sutures, a subsidiary of the American Cyanamid Company.

William R. Carothers, formerly covering the New Jersey territory, has replaced John Nevins, resigned, as representative in Pennsylvania and New York City for **Boger & Crawford,** Philadelphia, Pa.

S. J. Woodworth has been appointed sales manager, with headquarters at York, Pa., of the Wright Hoist division of **American Chain & Cable Co., Inc.,** Bridgeport, Conn. Mr. Woodworth, who has been associated with this division for over 25 years, succeeds A. R. Haskins, resigned.

Tennessee Corp. of Atlanta, Ga., is in the process of constructing a liquid sulphur dioxide plant at Copperhill, Tenn.

Gerald F. Twist has been appointed manager of the Peerless Pump Division of the **Food Machinery and Chemical Corp.,** and will make his

Mr. Twist

headquarters in Los Angeles, Calif. Mr. Twist, former vice-president and manager of FMC's newly acquired subsidiary, the Stokes and Smith Co., Philadelphia, Pa., replaces Francis F. Fairman, Jr., who has rejoined the General Electric Company.

International Business Machines

TYPICAL ANALYSIS of BARIUM'S

SODIUM SULPHIDE FLAKES

Fe	0.0005%
Other Heavy Metals	Nil
NaCl	0.40
Other Na_2O (not oxidizable)	1.35
Na_2S	61.00

Manufactured in large tonnages by

BARIUM REDUCTION CORPORATION

SOUTH CHARLESTON 3, WEST VIRGINIA

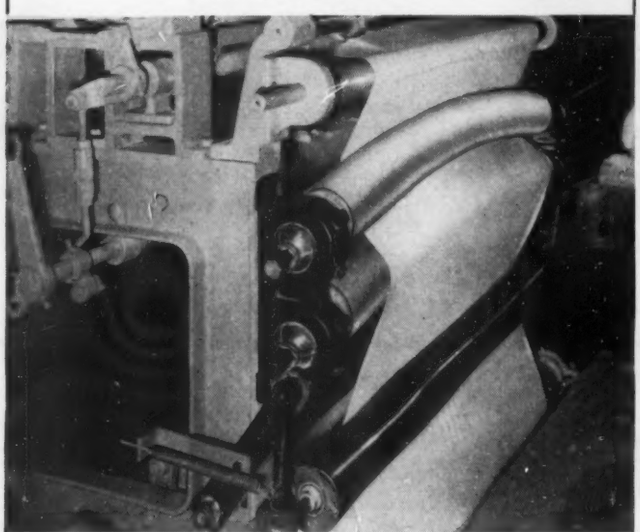
Need we say more?

Cut out CLOTH ROOM S-L-O-W-D-O-W-N-S

Prevent Cloth Damage on Shearing Machines with

Mount Hope SLACK SELVAGE ELIMINATOR

Cloth Room men report, "New Mount Hope unit with two expanders and pivoted roll controls selvage slack—eliminates cut selvages on shearing machines".



Installation of Mount Hope Slack Selvage Eliminator on shearing machines. Courtesy of Woodside Mills, Greenville, S. C.

The above illustration shows one of the cloth room uses of Mount Hope free wheeling Expanders. This new Mount Hope Slack Selvage Eliminator is mounted on the entrance to shearing machine.

Wherever there's a cloth wrinkling and spreading problem, there's a Mount Hope Expander installation to fit *your* requirements. Avoid costly slowdowns and spoilage due to wrinkles and slack selvages. Speed up your Cloth Room operation. A Mount Hope Engineer will be glad to advise you upon request.

SEND FOR BULLETIN SSEI TODAY.

Cloth Handling Devices

MOUNT HOPE MACHINERY CO.

42 Adams St., Taunton, Mass.

Representatives — Parkman Collins Company, Boston—for Maine • Ingalls Engineering Company, Providence—for N. H., Mass., R. I., and Conn. • John H. Andresen, Inc., Paterson—for Southeastern N. Y., N. J., and Pa. • A. B. Julin, Watertown, New York—for Northern and Western N. Y. • Slaughter Machinery Company, Charlotte—for the South • S. S. Wilson, 1737 Howard St., Chicago—for Mid-West • Sidney Springer, Los Angeles—for California • W. J. Westaway, Ltd., Hamilton and Montreal—for Canada

Travel in Style!

Your friendly Dary representative sees to it that the *right* style Dary Traveler is on the *right* ring!

Styling the ring to the traveler *is* important — but even more important is getting a traveler that *lasts* on the ring at higher spindle speeds.

Hard, smooth, durable Dary Ring Travelers last longer, give finer performance. Ask to see your Dary representative.

PROCESSED
SYMBOL OF SUPERIORITY

THE DARY RING TRAVELER CO.

TAUNTON, MASSACHUSETTS

JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

Corp. New York, N. Y., has announced the following promotions and changes in its executive management: John G. Phillips, former executive vice-president and director, has been elected president; Thomas J. Watson, Jr., former vice-president and director, is now executive vice-president; and Thomas J. Watson, former president, has been made chairman of the board, chairman of the executive and finance committee of IBM, and chairman of the board of the IBM World Trade Corp.

Dr. William J. Hart has been appointed head of the physical chemistry section of the **Institute of Textile Technology,** Charlottesville, Va., Dr. Hart was at one time concerned with research and development work for the Celanese Corp., U. S. Rubber Co. and the Flintkote Company.

Dr. Zeno W. Wicks has been transferred from the Finishes Division of the **Interchemical Corp.** to the Textile Colors Division at Fair Lawn, N. J., where he will carry out special research and development projects on pigmented emulsions for textile applications.

A new bulk product sales department which will take over the marketing of processing and finishing products has been announced by

Mr. Crowe

Procter & Gamble, Cincinnati, Ohio. Joseph B. Crowe, formerly in the textile research and customer service departments, has been named manager.

The **Research Corporation,** New York, N. Y., has announced that **Niagara Blower Company,** New York, has been awarded the license to manufacture dehumidifying and air conditioning equipment under a series of patents covering the removal of moisture from air or other gases by the use of a hygroscopic liquid, as developed by Research Corporation's scientists.

The **J. C. Paddock Co.,** Spartanburg, S. C., has appointed the **Textile Specialty Co.,** Greensboro, N. C. as their exclusive sales representatives in North Carolina and Virginia.

An independent fiber testing, research and consulting service designed primarily for cotton mills, merchants, brokers, etc., has been established at Mount Gilead, N. C. Known as **Southern Fiber Service,** the laboratory, which is under the direction of Dr. Jerry H. Moore, makes tests for fiber length, strength,

Dr. Moore

fineness, drag, neps, and foreign matter on raw cotton, comber, picker and card waste. Measurements of fiber maturity are made by use of the microscope and differential dye tests. Cotton is also carefully classed in the laboratory, with emphasis on fiber quality to fill specific needs. The classing and technical tests combined give a complete technical service.

Reuben Jennings, former superintendent of Equinox Mill, Anderson, S. C., has joined **Stodghill & Co.,** Atlanta, Ga., as sales representative covering the Alabama and Georgia territories.

Jack K. Davis is now representative for **Victor Ring Traveler Co.** Mr. Davis covers the Alabama, Mississippi, Louisiana, Georgia, and West Tennessee territory.

American Machine & Foundry Co. has been assigned the American sales rights for the textile machinery as manufactured by Titan, Ltd., Copenhagen, Denmark, warp-tying machines.

H. W. Butterworth & Sons Co. Philadelphia, Pa., has announced that plans are underway for the construction of a foundry and additions to the machine shop and storage facilities at the plant in Bethayres, Pa.

Alfred F. Malluck has been appointed sales manager of **Edmos Products Corp.,** Brooklyn, N. Y.

Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

Insist on Anderson when you order metal shields.

TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.

For greatest output of perfect goods, the majority of mills are using NON-FLUID OIL, the "perfected" loom lubricant.

Because of its exclusive adhesive properties, NON-FLUID OIL prevents "oil spot" loss from dripping, leaking oil and "cam spatters." Besides this tremendous saving in cloth spoilage, NON-FLUID OIL increases production and reduces maintenance cost by out-lasting ordinary oil or so-called *semi-fluid oil* imitations 3 to 5 times.

Write for Bulletin T20TI and free, testing sample of NON-FLUID OIL.

NEW YORK & NEW JERSEY LUBRICANT CO.

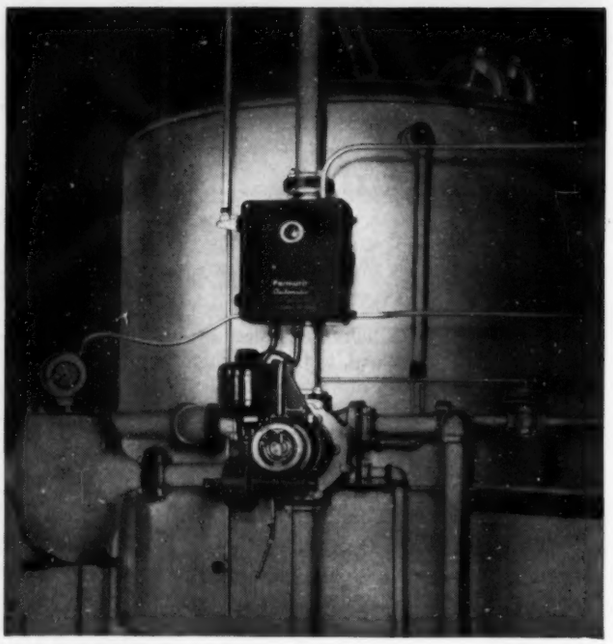
292 Madison Avenue New York 17, N. Y.

So. Dist. Manager: FALLS L. THOMASON, Charlotte, N. C.

Warehouses: Charlotte, N. C. — Greenville, S. C. — Atlanta, Ga. — Providence, R. I. — Detroit, Mich. — Chicago, Ill. — St. Louis, Mo.
Works: Newark, N. J.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called fluid grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

SAVE TIME LABOR MONEY



with the Permutit® Automatic

GIVES ZERO WATER CONSTANTLY!

The Permutit Automatic Water Softener gives a constant supply of pure, quality-controlled process water. Good water safeguards fabric quality—saves you money by eliminating the possibility of spotty dye lots or chemical reactions that ruin the finish of your fabrics. And automatic regeneration, made possible by Permutit's Multiport Valve Control, saves many costly hours of labor and attention!

YOUR PRESENT SOFTENER CAN BE EASILY CONVERTED TO AUTOMATIC CONTROLS!

The more up-to-date your softener, the more economical it is. Your present softener can be modernized *easily. You can greatly increase capacity and increase flow rate at the same time* by refilling your equipment with Permutit's new high-capacity zeolite—Permutit "Q." Consult The Permutit Company, Dept. **TI-11,** 330 West 42nd Street, New York 18, N. Y., or The Permutit Company of Canada, Ltd., Montreal.

Permutit

Water Conditioning Headquarters for Over 35 Years

HELPFUL BOOKLETS FREE

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This service is restricted to those engaged in operation and management of textile industries

First Listing of New Publications

11-1. Textile Trucks. Detailed folder describing the features of this manufacturer's line of vulcanized fiber trucks. Sample of fiber used in construction is included with the bulletin. J. C. Paddock Co., South Church St., Ext., Spartanburg, S. C.

11-2. Arguto Pulley Assembly. For Whitin Model "E" wool spinning frames, this assembly is claimed to save in "down time" due to cleaning waste from upper pulley hubs. Aluminum tension and idler pulleys also described and illustrated in new folder. Arguto Oilless Bearing Co., Philadelphia 44, Pa.

11-3. "Higher Diols". Uses and properties of eight new glycols are described in this eight-page booklet. The booklet gives complete physical properties for the higher diols, comparing them to the lower, more familiar two and three carbon glycols and glycerol. Uses have been tabulated by product and industry for quick reference. Carbide and Carbon Chemicals Corp., 30 E. 42nd St., New York 17, N. Y.

11-4. Sarcotherm Controls. Twelve page technical bulletin dealing with centralized panel program control systems for hot water and radiant heating. Schematic diagrams of boiler hookups and wiring diagrams are included. Sarcotherm Controls, Inc., Empire State Bldg., New York 1, N. Y.

11-5. Caustic Soda. New 80-page technical bulletin which contains information on the properties of caustic soda and its solution; the nature and advantages of liquid caustic soda, plus the latest data on its unloading and handling. Solvay Sales Division, 40 Rector St., New York 6, N. Y.

11-6. Condensate Drainage Control. The Cochrane C-B System of condensate drainage control is fully covered in a 24-page publication, No. 3250. Fifty-seven case histories and testimonials including photographs, flow diagrams and details of installation are included. Cochrane Corp., 17th St. & Allegheny Ave., Philadelphia 32, Pa.

11-7. Gurley Testing Instruments. Procedures for various methods of testing paper, textiles, plastics and other sheet materials, as well as the complete line of instruments for performing the tests, are described in this 20-page booklet. W. & L. E. Gurley, Troy, N. Y.

11-8. Ball & Roller Bearings. The company announces completion of an entirely new 112-page detailed catalog and engineering data book covering the company's complete line of ball and roller bearings. Link-Belt Co., 307 N. Michigan Ave., Chicago 1, Ill.

11-9. Automatic Selective Striper. "What's Wrong With the Rainbow" is the title of a new folder describing the Brinton Automatic Selective Striper machine Style S. S. W. Six views of important mechanisms embodied in this machine, together with descriptive data, are included. H. Brinton Company, Philadelphia 24, Pa.

11-10. Air Conditioning. Bulletin No. 3158-B describes this manufacturer's central air conditioning equipment. Sixteen pages in length, the booklet is profusely illustrated with photos and charts. Buffalo Forge Co., Buffalo 5, N. Y.

11-11. Finishing Machinery. Bulletin T2 describes and illustrates this company's line of textile finishing machinery. Included are the pad steam range, terry rolls, dye becks, etc. McKiernan-Terry Corporation, 505 Manor Avenue, Harrison, N. J.

11-12. "Present and Future." The company has published this beautifully prepared booklet to assist its customers in the most efficient use of its broad facilities and to call its facilities to the attention of industry in general. This firm is a contract supplier of products fabricated from aluminum and stainless steel. Aluminum Goods Manufacturing Co., Manitowoc, Wisconsin.

11-13. Corrosion Service Piping. Bulletin 485 is a comprehensive treatment on stainless steel and nickel alloy anti-corrosion and anti-contamination piping. Economics, standards, advantages of welding, technical data, complete dimensional information on stainless fittings and flanges, and other information are included in the 32-page book. Taylor Forge & Pipe Works, P. O. Box 485, Chicago, Ill.

11-14. Hand Chain Hoist. The Peerless Packet hand hoist is fully described and illustrated in Bulletin P-5. The Packet has a one-ton capacity and features enclosed steel construction, ball bearing bottom hook swivel and improved friction mechanism. Also available in ½ ton capacity. The Harrington Co., 17th and Callowhill Sts., Philadelphia 30, Pa.

11-15. Raw Sewage Pumps. Thirty-two page bulletin, No. 964-E, describes and illustrates the non-clogging raw sewage pumps and sewage ejectors. Included are vertical and horizontal solid shell models, horizontal diagonally-split shell pumps, and self-priming horizontal pumps. Buffalo Pumps, Inc., Buffalo 5, N. Y.

11-16. Corrosion Resisting Equipment. A new 12-page catalog condenses the data published in 54 separate bulletins on corrosive resisting equipment and alloys, for handy yet complete reference for the operating, maintenance, consulting, plant and chemical engineer. The Duriron Company, Inc., Dayton 1, Ohio.

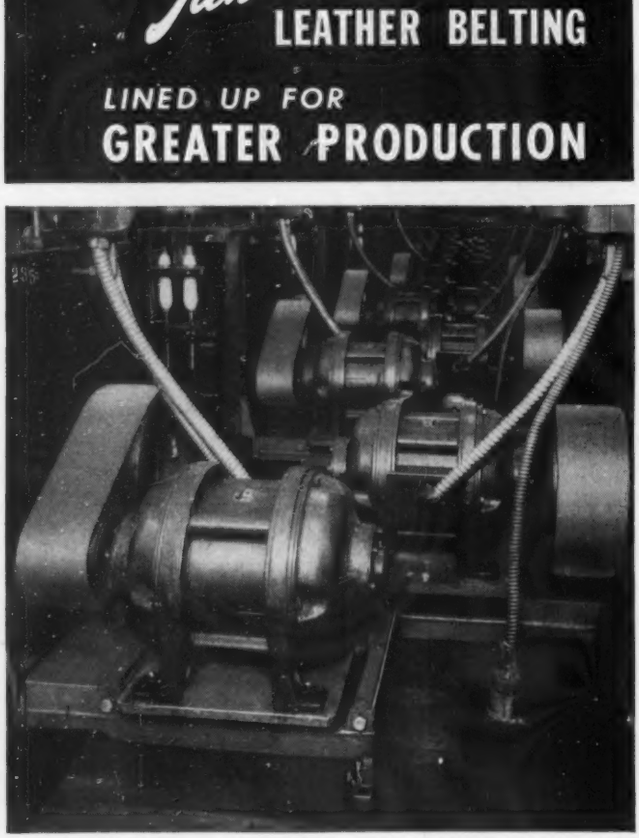
11-17. Ratomatic Instruments. A wide variety of primary and secondary flow instruments and control valves, for all industries, is described in a 24-page illustrated catalog. Also covered in the catalog is the improved "Pneumatrol" air-operated control mechanism and the line of "Valvrator" air-operated, diaphragm motor valves. Fischer & Porter Co., Hatboro, Pa.

11-18. Stoneware Equipment. Selecting the proper corrosion resistant materials and equipment can be a problem. Bulletin M was prepared with a view toward helping those interested to determine quickly how this company's products can be used to combat corrosion. The U. S. Stoneware Co., Akron 8, Ohio.

11-19. Bailey Combustibles Recorder. Design improvements and new applications for this recorder are featured in a new 16-page bulletin. Fully illustrated, Bulletin 150-A. Bailey Meter Co., Cleveland 10, Ohio.

RHOADS *Tannate* LEATHER BELTING

LINED UP FOR GREATER PRODUCTION



Rhoads TANNATE Leather Belts are stronger than most oak belts . . . therefore, they operate consistently at peak performance . . . helping to *increase production* and *lower maintenance costs.*

SPECIFIC ADVANTAGES:

- ***Resistant*** **to humidity, high temperatures, machine oil and many chemicals.**
- ***Flexibility*** **to operate efficiently over small pulleys at high speeds.**
- ***Resilient*** **to cushion shock loads.**

For further information, write for descriptive literature . . . Also available, full particulars about the NEW RHOADS TANNATE-ROCKWOOD LOOM DRIVE.

STRAPS FOR LOOMS, AND OTHER MECHANICAL LEATHER PRODUCTS

PRODUCERS OF FINE LEATHER FOR 247 YEARS

J. E. RHOADS & SONS

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IN CARD CLOTHING, TOO... HEIGHT IS IMPORTANT

Good boss carders know that to get uniform carding and high production you must have card clothing with smooth, sharp points that are uniform in height.

Because we at Wissco make our own steel and draw our own card wire, we can be sure that it has a finish that's perfectly smooth and free from surface scratches. Then, after the clean, accurately cut staples have been precision-set, they are ground to an accuracy of a ½ of a thousandth of an inch.

Wissco Card and Napper Clothing is unsurpassed for consistently efficient performance. It is available in all standard settings and foundations. We believe that after a trial order you will become a confirmed user. Why not write for detailed information and prices.

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Wissco CARD AND NAPPER CLOTHING

FOR COTTON, RAYON, WOOL, WORSTED, ASBESTOS AND SPECIALTIES

CF&I

A Product of Wickwire Spencer Steel Division of The Colorado Fuel And Iron Corporation

GENERAL ECONOMIC, MANAGEMENT . . .

4. HOW FACTORING CAN INCREASE PROFITS—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits. Including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

5. FACTORING AND FINANCING — Illustrated booklet on how factoring works, cost and credit information.—TEXTILE BANKING COMPANY, New York, N. Y.

6. ROYCE REPORTER—Published quarterly containing information of general interest to the textile field.—ROYCE CHEMICAL CO., Carlton Hill, N. J.

7. RAYON TELLS ITS STORY TO THE PUBLIC—Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public.—AMERICAN VISCOSE CORPORATION, New York 1, N. Y.

8. "WASTE REDUCTION AND CONTROL" — 19-page illustrated booklet giving primary waste factors; how to calculate cost of departmental waste; actual waste figures from mills; contains survey of waste practices.—SOUTHEASTERN ENGINEERING CO., West Point, Ga.

10. "LABOR AND MANAGEMENT BENEFIT BY INDUSTRIAL ENGINEERING PRINCIPLES"—8-page illustrated folder outlining principles of industrial engineering as they apply to textiles.—AMERICAN ASSOCIATED CONSULTANTS, INC., New York, N. Y.

11. FLETCHER JUNIOR "SUPER-SELF-BALANCING" EXTRACTOR—Illustrated folder describing this new extractor with the highly efficient self-balancing arrangement which uses steel springs instead of rubber buffers.—FLETCHER WORKS, INC., Philadelphia, Pa.

PLANT AND PLANT MAINTENANCE . . .

102. "TANK TALK"—Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. HUMIDIFICATION, EVAPORATIVE COOLING—Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment.—AMERICAN MOISTENING COMPANY, Providence, R. I.

104. SURFACE MAINTENANCE — Complete literature and details on the method of diagnosing surface maintenance problems and selecting the proper chemicals and coatings to solve them.—STEELCOTE MANUFACTURING CO., St. Louis, Mo.

105. FLUORESCENT LIGHTING FIXTURES—Specification sheets describing in detail industrial lighting fixtures of particular interest to the textile industry. Full information given on construction, light curve, methods of hanging, etc.—SMITHCRAFT LIGHTING DIVISION, Chelsea 50, Mass.

107. FINNELL SCRUBBERS — Illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

109. FIRE EXTINGUISHER — Folder available which describes the All-Out extinguisher which does not contain corrosive liquids or other ingredients harmful to fabrics or textile machines. Available from Atlanta representative. — ATLANTIC FIRE EQUIPMENT MFG. CO., 238 Spring St., N.W., Atlanta, Ga.

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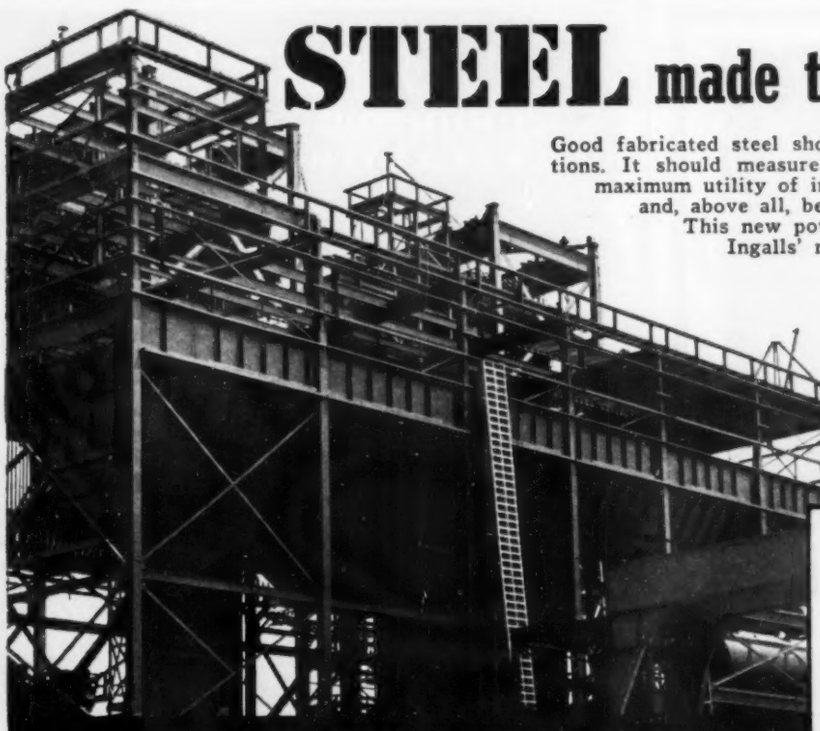

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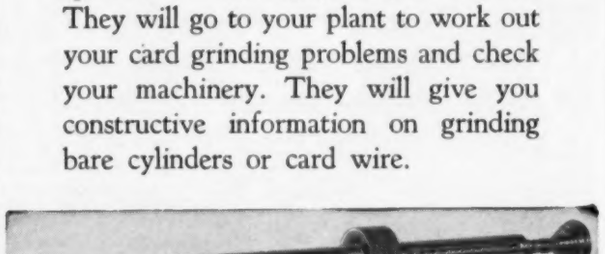

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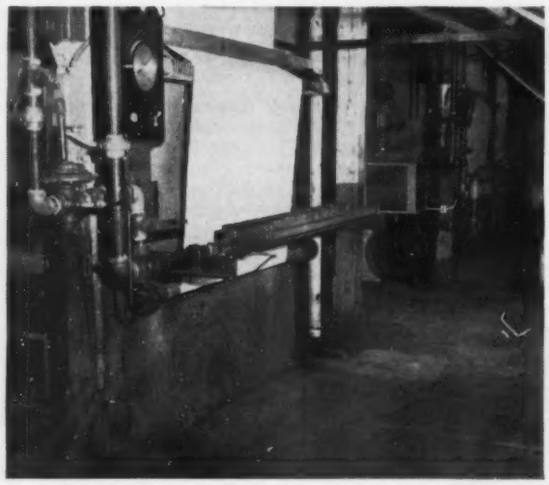

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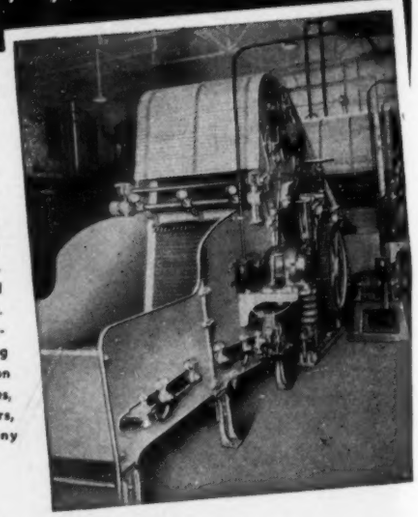

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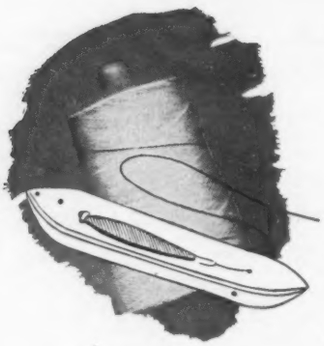

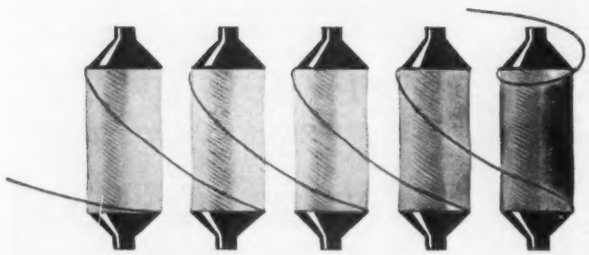

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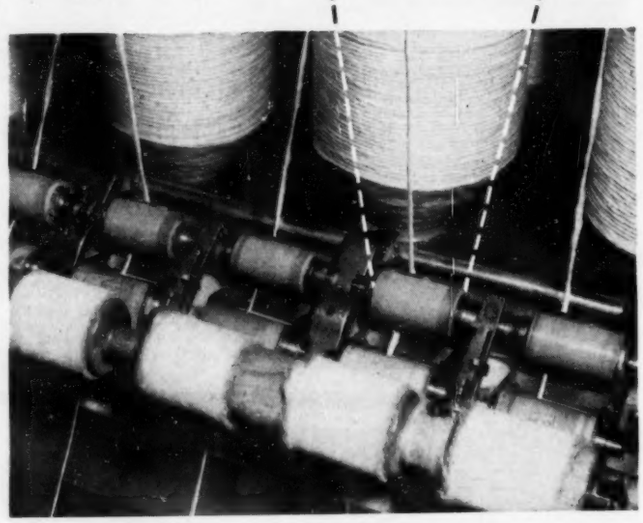

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605. CONTINUOUS AUTOMATIC EXTRACTING MACHINE — Folder describing the most efficient method of extracting excess liquid from fibrous materials.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY—Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Preboarding and Automatic Boarding Machines for hosiery.—PROCTOR & SCHWARTZ, INC., Philadelphia, Pa.

611. BRUSHING AND SHEARING MACHINES—Illustrated literature on the new Hermas Brushing Machine for use light sheeting to heavy ducks; also on Hermas AV Shears.—HERMAS MACHINE CO., Hawthorne, N. J.

612. WET GOODS TRUCK—Illustrated bulletin which describes fully this stainless steel wet goods truck. Complete specifications and information given. —S. BLICKMAN, INC., Weehawken, N. J.

613. RADIANT HEAT IN TEXTILE INDUSTRY—New illustrated book on uses of radiant heat, data on fuel consumption, evaporation, etc. — RED-RAY MFG. CO., New York, N. Y.

614. STRIPS IN ROLLS—Form No. CF-642 illustrated folder showing over 25 slitters and roll winders for textile use.—CAMERON MACHINE CO., Brooklyn, New York.

616. ENGINEERING PROPERTIES OF MONEL—Technical Bulletin T-5, giving detailed information on strength and ductility, working properties, resistance to various types of corrosion and other data on Monel Metal. — INTERNATIONAL NICKEL CO., INC., New York, N. Y.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING—Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation.—TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

622. FILT-R-STIL—Attractive illustrated booklet describing the FILT-R-STIL method of chemically purifying water.—AMERICAN CYANAMID & CHEMICAL CORP., New York 20, N. Y.

625. BALL BEARING ROLLER TYPE SCRAY—Circular No. 904 describing this scray which is for use in handling heavy and large size rolls of cloth. This is used either in finishing plants or in the cloth room of cotton mills.—BIRCH BROS., INC., Somerville, Mass.

626. GUIDER AND GUIDING EQUIPMENT—This booklet entitled "Mount Hope Precision Guider and Guiding Equipment" describes this latest development in guiding equipment. The new guider, it is claimed, makes possible automatically controlling the lateral movement of cloth within closer limits than ever before possible.—MOUNT HOPE MACHINERY CO., Taunton, Mass.

627. SINGLE APRON STOCK DRYER—Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

628. STAINLESS STEEL WARE—New data sheets available on this line of stainless steel pails, dippers, buckets and Blickman-Built fully enclosed stainless steel Dye Box.—S. BLICKMAN, INC., Weehawken, N. J.

630. VAT DYEING OF WOOL—Write for Calco Technical Bulletin No. 197 outlining fundamental dyeing procedures, and explaining new advances in the technology of wool dyeing and finishing.—CALCO CHEMICAL DIVISION, AMERICAN CYANAMID CO., Bound Brook, N. J.

632. LUG STRAP WASHERS—Series 1-C illustrated bulletin detailing right and wrong application and use of washers.—E. H. JACOBS NORTHERN DIVISION, Danielson, Conn.

633. PRINTING WITH ARIDYE PIGMENT COLORS—Bulletin F-1—describes preparation and application of pigmented water-in-oil emulsions for printing cotton, rayon, and other fabrics.—INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION, Fair Lawn, N. J.

634. APPLICATION OF INTERCHEM ACETATE DYES—Bulletin IAD-1 describes procedures for dyeing and printing acetate rayon and nylon fabrics with new line of highly dispersed acetate dyes.—INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION, Fair Lawn, N. J.

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DYESTUFFS, CHEMICALS, SOAPS . . .

705. THEORETICAL AND APPLIED SILK-SOAKING—Attractive 28-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk.—HART PRODUCTS CORP., New York City.

710. HERCULES PINE OILS — Leaflet briefly describing advantages of using this manufacturer's oil in wet-processing of textiles.—HERCULES POWDER COMPANY, Wilmington, Del.

712. VANDERBILT MATERIALS—Available is a 6-page booklet describing non-toxic fungicides, starch stabilizers, dispersing agent, clay and talc and their use in textile operations.—R. T. VANDERBILT CO., INC., New York, N. Y.

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756. TEXTILE SPECIALTIES—Listing and describing a wide and complete range of specialties manufactured and sold by American Cyanamid Company formulated to the latest advances in textile chemistry.—AMERICAN CYANAMID COMPANY, 30 Rockefeller Plaza, New York 20, N. Y.

762. ONYX TECHNICAL DATA SHEETS—Two new data sheets describing the use, advantages, and applications of Xyno Resins S 69 and Xyno Resin 3362.—ONYX OIL & CHEMICAL COMPANY, Jersey City 2, N. J.

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772. "STANDARD SILICATE ALKALIES" — Booklet descriptive of silicate and silicated alkalies and their uses. These uses include for silk weighting, in peroxide bleaching, boiling of cotton, textile finishing, etc. — DIAMOND ALKALI COMPANY, Cleveland, Ohio.

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774. ROYCE TEXTILE CHEMICALS—This booklet briefly describes the leading Royce products for textile processing printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

KNITTING . . .

801. THE WILDMAN SINGLE-HEAD FULL-FASHIONED HOSIERY MACHINE — Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

803. THE TUBE-TEX FOR TUBULAR KNIT GOODS—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste.—H. W. BUTTERWORTH & SONS CO., Philadelphia, Pa.

809. TEXACO IN THE KNITTING INDUSTRY—Folder on knitting mill lubrication.—THE TEXAS CO., New York, N. Y.

810. ALUMINUM BEAMS—Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types.—HAYES INDUSTRIES, INC., Jackson, Mich.

811. CIRCULAR KNITTING MACHINES—Interesting, informative and well illustrated is this six-page folder, just released, which describes this company's small diameter circular knitting machine.—H. BRINTON COMPANY, Philadelphia 34, Pa.

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SEWING MACHINES . . .

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921. FELDLOCK "DUALFEED" MACHINE — Bulletin No. 903, illustrating and describing the heavy duty Feed-off-the-Arm felling machine for overalls, work pants, etc.— WILLCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

936. FLAT BED SEAMING MACHINE—Full information contained in bulletin No. 936 on Type 1101 "W & G" Flat Bed Seaming Machine.—WILLCOX & GIBBS SEWING MACHINE CO., 214 West 39th St., New York 18, N. Y.

MATERIALS HANDLING . . .

1001. HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY — Profusely illustrated. Gives clear, concise understanding of materials handling. Helps you to determine where and what equipment might be used to speed production and increase profits. — CLEVELAND TRAMRAIL DIV., Wickliffe Ohio.

1002. CATALOG NO. 22—An attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use.—MEESE, INC., Madison, Ind.

1003. CASTERS AND WHEELS—192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach, Calif.

1005. BASKETS, HAMPERS & TRUCKS—This 24-page catalog is profusely illustrated and contains complete description on the Dandux line, especially designed for the textile industry.—C. R. DANIELS, INC., Daniels, Md.

1006. LANE CANVAS BASKETS—16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. OVERHEAD HANDLING EQUIPMENT — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

1008. CASTERS AND WHEELS—An illustrated booklet with complete specifications showing a complete assortment of Colson Textile Casters.—THE COLSON CORP., Elyria, Ohio.

1009. CANVAS PRODUCTS—A complete listing with illustrations of Dandux Canvas Products. For easy fingertip reference and handy file size. Brief but factual information.—C. R. DANIELS, INC., Daniels, Md.

1025. CAB-OPERATED AND FLOOR-OPERATED ELECTRIC HOISTS—Bulletin No. 127 describing and illustrating electric hoists of various types and capacities. — SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

1027. SINGLE BEAM CRANES—Bulletin No. 130 describing and illustrating the single beam type of overhead traveling crane.—SHEPARD NILES CRANE AND HOIST CORP., Montour Falls, N. Y.

1030. C-D HOLLOW WARE—This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item.—CONTINENTAL-DIAMOND FIBRE CO., Newark 38, Del.

MISCELLANEOUS . . .

1101. AUTOMATIC BOBBIN REFINISHER—A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production schedule.—J. M. NASH COMPANY, 2360 N. 30th St., Milwaukee, Wis.

1102. BALING PRESSES—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

1103. UNBRAKO SCREWS — Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1104. INTERPRETATION OF ANALYSIS — In compiling this brief collection of terms which most frequently appear in analysis of surface active chemicals, an attempt has been made to explain as clearly as possible the meaning of these terms to those who have had little or no chemical training. —NOPCO CHEMICAL CO., Harrison, N. J.

1107. AUTOMATIC QUILL POLISHER—Bulletin describes production machine for refinishing loom bobbins. Tells how quills can be kept in perfect condition at minimum labor cost.—J. M. NASH CO., 2360 N. 30th Street Milwaukee 10, Wis.

1108. FABRICATION OF U. S. STAINLESS STEELS—136-page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosion-resistance table for chemicals.—CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Penn.

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(*Continued from page* 186)

to a laboratory, and it was found that it was of a most unusual fineness. Also, it appeared to be so burned by the sun that it had lost its flexibility and had become straw-like in its dryness. This mill has not used irrigated cotton since.

No other mill using irrigated cotton has purchased any bales as bad as this. It is felt that this was a freak occurrence which can be avoided by careful buying.

Mill Group C.

These are large mills with excellent and well-staffed laboratories, and they have been using irrigated cotton for years. Their methods, based on scientific investigation, are of great importance. This group produces, among other items, such fabrics as poplin and broadcloth.

Opening. The management of this mill is convinced that the most important characteristic of irrigated cotton, so far as its running characteristic is concerned, is its fineness. No attempt is made to blend all irrigated with rain grown, but every bale of cotton is tested for fineness and blends are made up so that too much fine fiber is not started through the pickers at the same time, regardless of cotton type.

In order that opening may be as easy on the cotton as possible, this mill does not use bale breakers or vertical openers. The stock goes straight from an automatic feeder to the pickers; and the speed of the pickers is kept low. Standard lags are used on the finisher beaters.

No oil is added to the cotton. Though oil was used until two years ago, its use was discontinued when it was found by test that it did not improve the running quality of the irrigated cotton.

Carding. This mill uses standard card settings but has reduced card speed. Speed of flats is held at about 3-4 inches per minute. No tendency to load the flats has been noted. Humidity in the card room is held at 50%.

Further Processing. The important thing to note concerning methods used by this mill is the lack of any unusual treatment of the cotton. Except for a reduction of handling in opening (which they claim reduces neps in any cotton and particularly in fine fiber cottons) this mill feels that there is no need to treat irrigated cotton differently. It must be noted, however, that through the use of their excellent laboratory, they are able to control the fineness of any mix going to the opening room.

This mill had never noted any characteristic which they could classify as brittleness. They found the cotton dry, but did not know what other mills meant by "brittleness." Such a characteristic for cotton has never been defined, they pointed out, and is not at present measurable.

This mill holds humidity at 60% at the drawing, which is higher than any other mill noted, and they recommend considerably higher humidity for weaving.

It should also be noted that yarns produced at this mill are carded only, and are woven on looms within the mill. Yarns produced by both Group A and Group B are combed and then used as thread or knitting yarns or tire cord.

Rules for Running. Since it is true that a number of mills, both large and small and running both carded and combed cotton, are successfully handling irrigated cotton, a summary of their recommendations will be of value. The following indicate the practice of some mills that have succeeded in producing strong, white yarn of good appearance. Wide disagreement will be found from mill to mill, but these suggest some methods used.

(1) Blend any bales of extremely fine fiber in with other average bales. If a fineness testing is not available, run two bales of irrigated to one bale of rain grown.

(2) Try Oil. This is a controversial question and it may or may not do good, but some mills claim benefits.

(3) Eliminate as much beating on opening and picking as possible. Reduce beats per inch. Use bullet nose lags on Kirsch-

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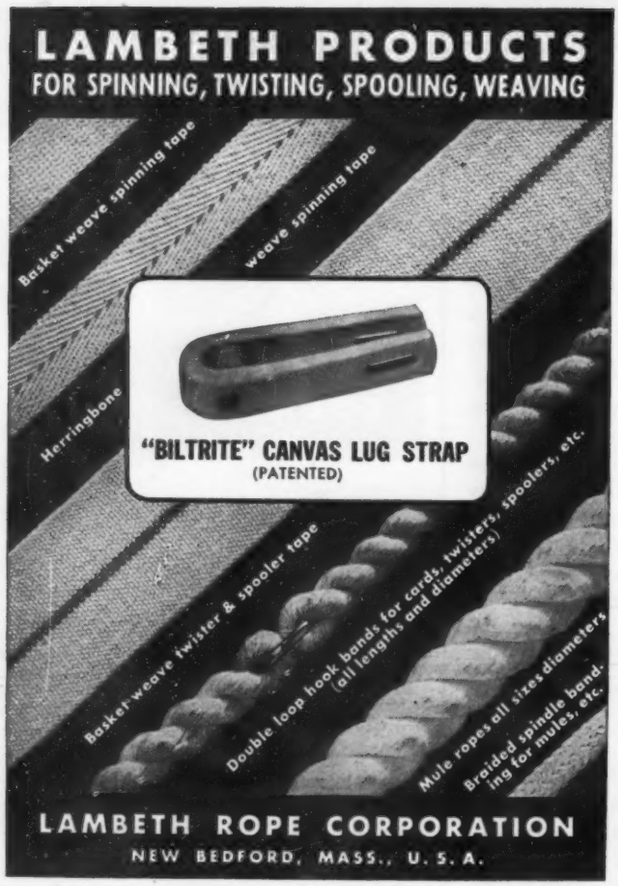
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ner beaters.

(4) Try setting card so that there is a wider opening between flats and cylinder at front than at back. Check percentage plate to be sure of getting 13 grs per flat. Try speeding up flats to 6 in. per min.

(5) Maintain humidity in card room at 40% to 50%, but 60% may be better for spinning. Go easy on conditioning of yarns if there is any sign of stickiness.

If these suggestions are tried, making allowances for particular mill conditions, little if any extra trouble is to be expected in running irrigated cotton, and there are the added advantages of high strength, whiteness, softness, and the fact that in buying it the mill is not paying for so much water at better than thirty cents a pound.

Start-Up Marks on Spun Rayon-Wool Gabardines

(*Continued from page* 131)

Set Marks or Ripples. This defect is made in many dimensions, and it may be very faint or extremely bold. It has the appearance of a filling defect and in most cases resembles picks of coarse filling. This defect has a ribby appearance. It is made by stretching of the warp yarn while the loom remains stopped. The stretched yarn is elongated and when the loom is restarted it is woven into the cloth with greater crimp than required. This extra crimp is brought to the surface on the entire width of the cloth, and the formation of ribs ensues. A patterning of ribs continues until the yarn is once more fed into the cloth with a natural take-up. The ribs are very prominent at the immediate point of loom start, gradually tapering off to invisibility.

The defect is influenced by the length of time in which the loom remained inactive. A loom stopped momentarily will, in most cases, show no visible ribs. A loom stopped for longer than ten minutes will tend to overstretch the warp yarn and show set marks. Looms should be restarted in the shortest possible time. If the yarn has had no chance to stretch abnormally, the defect will not be objectionable.

Set marks are induced by tension upon the warp yarn, drop wire strain and the pull upon the yarn through the harness heddles and shafts. The elimination of set marks is difficult. There are certain conditions which will bring these defects into greater prominence.

A. Drop Wires, Warp Stop Motion:

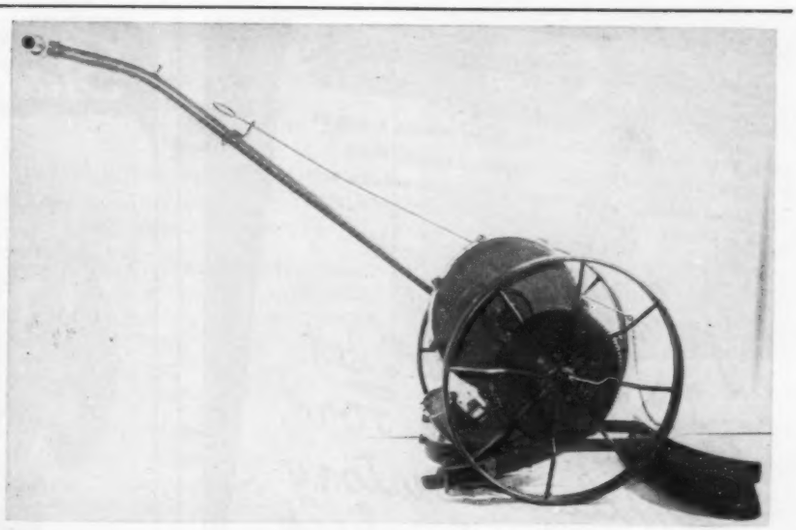
The use of drop wires which are heavier than absolutely necessary should be discouraged. The weight of the wires should be sufficient to allow them to drop when a warp end breaks out or becomes loose. If drop wires are too heavy they will stretch the yarn. If the warp yarn is crowded and prevents the free dropping of the wires, it may be necessary to increase the number of banks or rows of wires rather than to use a heavier wire.

Warp stop motions should be set back and away from the harness shafts to allow a less acute angle of the yarn between these points. A wide angle will tend to stretch the warp yarn and cause abnormal elongation.

B. Harness Shafts:

Excessively large sheds are conducive to more prominent set marks, and should only be high enough to clear the shuttle slightly; otherwise the additional strain on the yarn will result in excessive elongation and set marks. If a dobby is used, the tension on the harness springs is important. If the pull is too great the stretch in the yarn will be high when the loom is stopped. If one or more

(*Continued on page* 213)



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ARE DOING

J. P. Stevens & Co., Inc., has announced plans to start construction on a rayon finishing plant on the Pee Dee River at Kollock, Marlboro county, near Cheraw, S. C.

Charles W. Carvin Co. has introduced a new interpretation of satin back crepe called "Taboret" which is woven by the **Duplan Corp.** Construction of the fabric contains Du Pont "Thick and Thin" rayon and other Du Pont rayon and acetate yarns.

The Erwin Cotton Mills Co. of Durham, N. C., are sponsors of a group of fashion experts on a two-week promotion tour to Colombia, S. A., for the purpose of testing the practicability of a Sportdenim wardrobe for vacationists. Many of the fabrics have been treated for wrinkle resistance and water repellancy.

The **Russell Manufacturing Co.,** Middletown, Conn., has purchased the Howard Asbestos Co., Northfield, Vt., in an effort to insure a supply of high quality asbestos yarns for their automotive friction materials.

Tioga Worsted Mills, having produced fine worsted suitings for the past 20 years, have changed their line of production to a new type of rayon suiting, to be finished in "Superset" and other American Cyanamid resins.

A new company, Forstmann Australia, Ltd., has been formed by **Forstmann Woolen Company** for the purpose of purchasing its Australian wool requirements.

Crescent Corp., Fall River, Mass., has announced its acquirement of the land, buildings and machinery of Nonquitt Mills, New Bedford, Mass., from the William Whitman Co. of New York.

Frank Ix and Sons, New York, N. Y., has plans for the construction of a rayon weaving plant in Lexington, N. C.

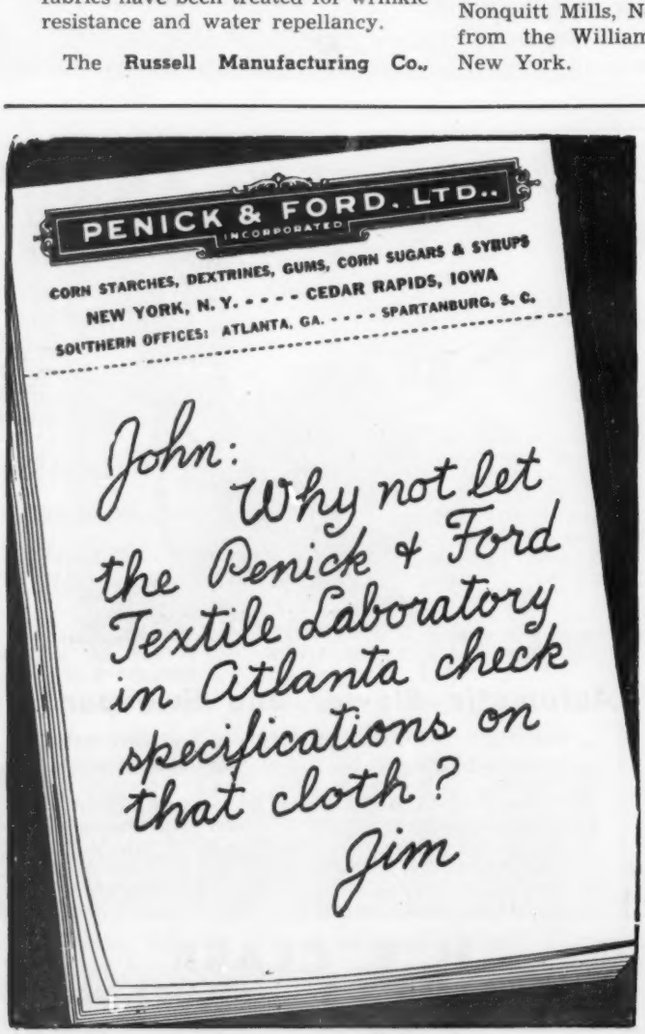
Hartwell (Ga.) Mills has begun a $750,000 expansion program, and the output of the cotton sheeting is expected to be doubled. The plant will be air conditioned using refrigeration.

Namar Fabrics Co., Boston, Mass., has been incorporated with a capital of 2500 shares of stock, no par value, to manufacture narrow cotton fabrics, threads, etc. Mortimer Gulden is president and treasurer.

Worcester Dyers, Inc., Leicester, Mass., has been organized with a capital of 100 shares of stock, no par value, to operate a dyeing and finishing mill. George Elkind is president.

The **Clark Thread Co.** has sold its mill at Bloomfield, N. J., to Scientific Glass Apparatus Co., Bloomfield, and the machinery and facilities will be moved to Clarkdale, Ga., for use at Clark's several mills.

Asheville (N.C.) Fabrics Mill, Inc., rayon fabrics, has been acquired by Cone Mills, Inc., Greensboro, N. C., and will be operated as a branch mill rather than a subsidiary interest, as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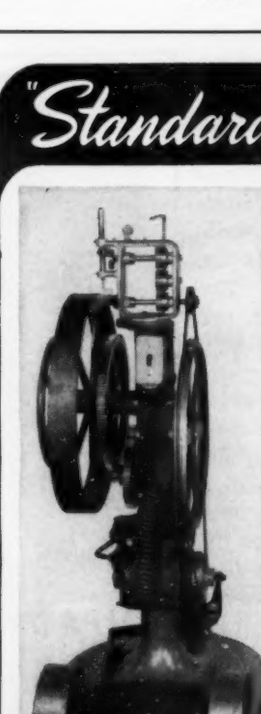

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heretofore. The Asheville company will be dissolved, but production will be maintained as in the past.

Carolon, Inc., Salisbury, N. C., has been incorporated with a capital of $200,000, to manufacture rayon fabrics. The incorporators include Thomas Borland, Salisbury, and Benjamin Rudisill, Cherryville, N. C.

Miller Textile Combing Co., Inc., has been chartered with a capital of $75,000 to operate a wool-combing mill. Edward J. Plunkett, Providence, R. I., is attorney and representative.

Gold-Tex Fabrics Corp., Rock Hill, S. C., colored cotton fabrics, has let general contract for a one-story addition to be used for warehouse service.

Pepperell Mfg. Co., Opelika, Ala., has let general contract for a three-story addition, to be used primarily for warehouse service, handling material ready for finishing.

Pinecrest Cotton Mills, Inc., has work well advanced on the superstructure of the main units for a proposed mill in Pine Bluff, Ark., to be given over to the manufacture of grey goods. The project is reported to cost approximately $2,000,000.

Swift Mfg. Co., Inc., Columbus, Ga., covert cloths, special cotton fabrics, etc., has begun construction on a one-story addition, to be used for warehouse service. The cost is reported to be close to $150,000.

Kenilworth Worsted Mills, Inc., South Boston, Mass., has been organized to manufacture worsted goods. Sidney Brady, Newton, Mass., is president.

Shamrock Textile Processing Co., Inc., has been chartered to operate a bleach, dye and print works, for silk, rayon, etc., in Paterson, N. J. Raymond E. Caffray, Tuxedo Park, N. Y., is the principal incorporator.

Premier Worsted Mills, Inc., Bridgeton, R. I., men's wear, fancy worsteds, etc., is reported planning the discontinuance of operations at the Bridgeton plant, and will transfer the machinery and equipment to the mill in Raleigh, N. C., where increased capacity will be carried out.

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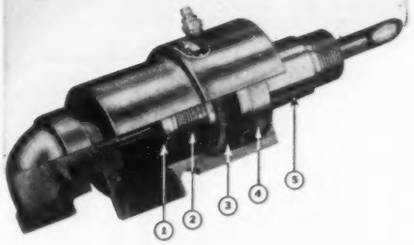

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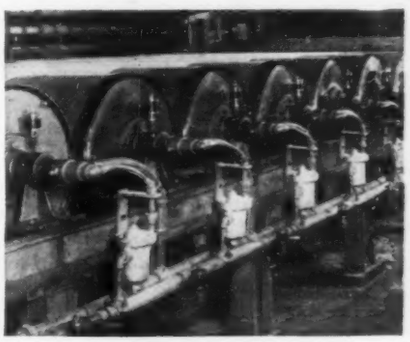

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PUBLISHER'S STATEMENT

of the ownership, management, circulation, etc., required by the act of Congress of March 3, 1933, of TEXTILE INDUSTRIES, published monthly at Dalton, Ga., for October 1st, 1949.

State of Georgia, County of Fulton.

Before me, a Notary Public in and for the State and County aforesaid, personally appeared Maynard L. Durham who, having been duly sworn according to law, deposes and says that he is the Business Manager of TEXTILE INDUSTRIES, and that the following is to the best of his knowledge and belief, a true statement for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in Section 411, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, W. R. C. Smith Publishing Co., Atlanta, Ga.; Editor, John C. Fonville, Atlanta, Ga.; Business Manager, Maynard L. Durham, Atlanta, Ga.

2. That the owners are: W. R. C. Smith Publishing Co., Atlanta, Ga.; Estate of W. R. C. Smith, Atlanta, Ga.; W. J. Rooke, Atlanta, Ga.; O. A. Sharpless, Atlanta, Ga.; T. W. McAllister, Atlanta, Ga.; E. W. O'Brien, Atlanta, Ga.; J. C. Cook, Atlanta, Ga.; R. P. Smith, Atlanta, Ga.; Mrs. E. L. Philpot, Atlanta, Ga.; A. F. Roberts, Atlanta, Ga.; S. J. Jones, Atlanta, Ga.

3. That the known bondholders, mortgagees and other security holders, owning or holding 1 per cent or more of total amount of bonds, mortgages, or any other security holders are: None.

4. That the two paragraphs next above giving the names of the owners, stockholders and security holders if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholders or security holders appear upon the books of the company as trustees or in any other fiduciary relations, the name of the person or corporation for whom such trustee is acting is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stock holders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bonafide owner and his affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

MAYNARD L. DURHAM,
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Sworn to and subscribed before me this 1st day of October, 1949.

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(*Continued from page* 209)

harness shafts form a larger shed than do the others, the yarn on them will be elongated more than the yarn carried by the heddles of the normal shafts. This is especially significant when adjusting the back harness shafts where the necessity for a bigger shed is apparent.

C. Warp Line:

The warp line should be adjusted to produce an evenly balanced tension upon the top and bottom shed yarns. This should be accomplished through adjustments on the whiprolls, warp stop motions, breast beam, and harness shafts.

D. Loom Brakes and Drives:

Looms should stop upon indication when shipper is off. Looms which stop with an open shed will cause ripples. The timing of the loom stopping mechanisms and adjustments on loom brakes should allow the loom to stop with the harness shafts leveled off. This prevents the extra strain on the warp yarn, and elongation is not as pronounced.

E. Humidity:

Excessive humidity is a factor in spun rayon-wool elongation. Humidities should be kept at a level consistent with good loom maintenance as well as proper weaving of the yarn. Any excess will make the warp yarn subject to elongation and cause an increase in set marks. Determination of relative humidity of a weave room should be by the individual mill. Various factors enter into the problem. However, if the relative humidity does not exceed 65 per cent, the development of ripples is greatly decreased. There is no need for a greater amount of atmospheric moisture in weaving rayon-wool blended cloth.

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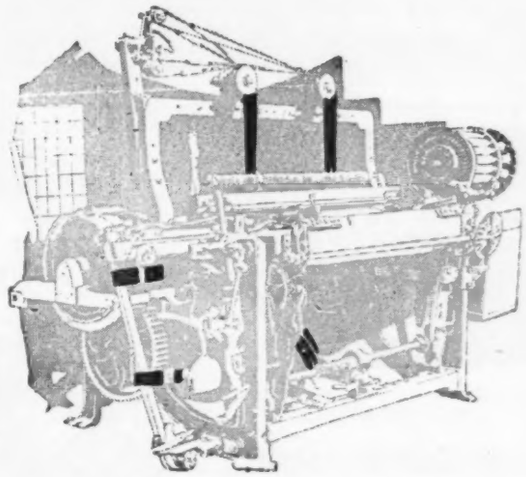

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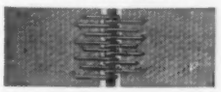

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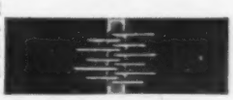

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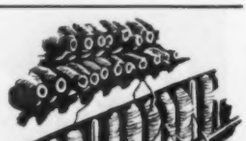

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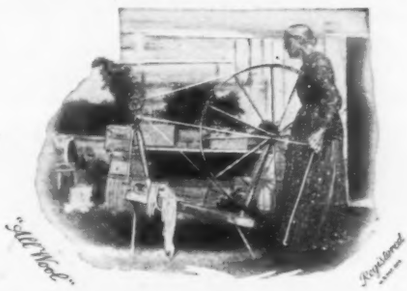

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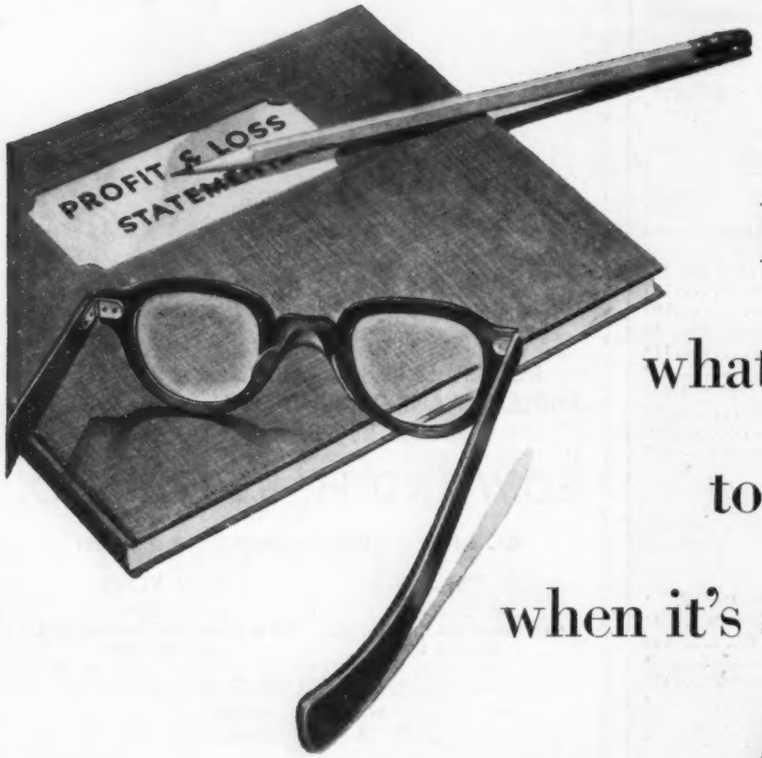

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